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	MILITARY POLICE FACILITIES	
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**Design Guide**

**DG 1110-3-146**

# **Military Police Facilities**

**Department of the Army**

Office of the Chief of Engineers  
Military Programs Directorate  
Engineering Division  
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## Foreword

The Design Guide (DG), series has been established to replace selected material previously issued under the standard design medium by the Engineering Division, Military Programs Directorate, Office of the Chief of Engineers, U.S. Army.

This guide contains project development and planning and design guidance for use in developing Military Police facilities. This guidance is applicable to all new construction projects and projects involving the rehabilitation/conversion of existing facilities.

Preparation of this guide was done under the direction of the Special Projects Section, Structures and Buildings Systems Branch, of the Engineering Division, and is based on the results of Contract No. DACA 73-74-C0015 for planning and design studies conducted by Becker and Becker Associates, Inc., New Canaan, Connecticut, and their consultants: SMS Architects, of New Canaan, Johnson & Dee, Avon, Connecticut, and Meyer, Strong and Jones, New York, New York. The functional requirements in this guide have been developed in conjunction with, and approved by, the Office of the Deputy Chief of Staff for Personnel, (DAPE), HQDA.

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Users are invited to send comments and suggested improvements to HQDA (DAEN-MPE-B) WASH DC 20134.

FOR THE CHIEF OF ENGINEERS

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# Chapter 1

## 1-1

### Purpose Of the Design Guide

**a. PRINCIPAL OBJECTIVES** The principal objectives of this Design Guide are:

- (1) To help using service and design agency personnel develop military police facilities which are cost-effective, efficient and beneficial to mission accomplishment;
- (2) To provide the type of guidance that will improve preplanning and early design decisions and insure the development of realistic functional requirements in accordance with current Army regulations and DOD Construction criteria.

**b. INTENT** While this guide is the basic criteria document for the physical development of military police facilities, it is not intended to provide all of the information required for successful preparation of individual project designs. Supplementary information must be obtained at the local installation level in order to accurately describe functional requirements that reflect the individual needs of local operations and the locational constraints and opportunities of the specific sites or existing facilities.

**c. PROJECT DEVELOPMENT** This guide provides general project development guidance for using service and Corps of Engineers field office personnel. This guidance will be used in the preparation of Army military police project estimates for inclusion in military construction programs.

**d. PLANNING AND DESIGN** This document provides guidance for identifying the actual functional requirements of a particular project. Planning and design criteria for use in developing a project's individual requirements have also been included to assist using service and design agency personnel in the preparation of specific project designs. Where specifically noted, it is intended that this guidance will govern the planning, design and construction of Army military police facilities.

**e. DESIGN EVALUATION** The planning and design criteria contained in this guide will be used by design agency personnel as a basis for the evaluation of individual project designs. The space organization principles and pre-design concepts in this guide will also assist using service and design agency personnel who prepare physical and functional requirements, evaluate pre-design concepts and review and approve project designs for military police facilities.

**f. UPGRADING EXISTING FACILITIES** A large number of projects will involve the modernization and improvement of existing facilities. Thus, both the designers and users of existing facilities will find this guide helpful in developing the required improvements to existing sites and structures.

## 1-2

### Scope of Design Guidance

**a. APPLICABILITY** This Design Guide is applicable to all new construction projects for Army military police facilities, whether for totally new facilities or for additions to existing or found space. Chapter 5 guidance is particularly applicable to projects involving the modernization and improvement of existing facilities. The example designs contained in Chapter 6 are generally applicable to projects involving the construction of totally new facilities.

**b. PLANNING AND DESIGN CRITERIA** General planning and design criteria and physical area requirements for individual military police activities, which are discussed in Chapters 2, 3 and 4 of this Design Guide, should be used to determine the actual functional requirements of MP facilities. Chapter 5 contains programming, planning and design guidance for modernization and improvement projects.

**c. EXAMPLE DESIGNS** The case studies presented in Chapter 6 illustrate the application of project development procedures and planning and design guidance. These designs are not intended to be definitive. They are intended to represent possible solutions for the following requirements in terms of the installation population served:

Example Designs	Installation Population	Facility Size
(1) Example A	8,000 or Less	18,460
(2) Example B	8,000 to 20,000	25,720
(3) Example C	20,000 or More	35,025

## 1-3

### Use of Reference Material

**a. GENERAL** Reference must be made to project development procedures and planning and design guidance contained herein as well as contained in related engineering and construction regulations and reference material. Individual projects may require the use of MP reference documents other than those listed below. It is essential, therefore, that individual military police organizations indicate the specific reference material of importance to project accomplishment. This material will usually include: organization regulations, mission function manuals, operating codes or standard operating procedures, as well as any specific operational requirements that need to be considered either in the planning or the design of special military police facilities.

**b. PRIMARY REFERENCE MATERIAL** Reference documents and regulations that can be used to identify specific functional, personnel or equipment requirements, special staffing procedures, or special organizational relationships should be identified. Reference documents should be categorized according to the information requirements of the project development process.

**(1) Functional Programming** The following documents are important in understanding the current methods used to develop programming requirements for military police facilities. Where other regulations refer to specific functional, personnel or equipment requirements, special staffing procedures, or special organizational relationships, they should be included to describe functional criteria which must govern the programming process. Specific documents are listed separately from those documents of general interest only.

**Specific:**

FM 19 Series	Military Police Field Manuals
AR 10-10	Installation Mission - Function

**General:**

AR 570-2	Organization and Equipment Authorization Table
AR 570-3	Manpower and Equipment Utilization and Requirements
AR 570-4	Manpower Surveys (Specific Schedule X)
AR 570-500	Staffing Guide of U.S. Army Organization (mission-peculiar/related activity guide)

**(2) Project Development** The following regulations pertain to the general requirements for project development. They contain a series of specific considerations relating to architectural, structural, mechanical, site and project performance criteria.

DOD 4270.1-M	Department of Defense Construction Criteria Manual
AR 415-10	General Provisions for Military Construction
AR 415-15	MCA Program Development
AR 415-20	Project Development and Design Approval
AR 415-35	Minor Construction
TM 5-800-1	Construction Criteria for Army Facilities
TM 5-800-3	Project Development Brochure

**(3) Facilities Planning and Design.** This Design Guide for military police facilities is the governing supplemental reference document containing specific facility planning and design criteria. In making reference to other criteria for military police facilities planning, available documents provide only

general guidance. DOD Construction Criteria Manual 4270.1 -M contains mandatory construction criteria as well as space allocation and design criteria which may aid in identifying general functional requirements. Current Space Utilization Criteria are contained in AR 405-70. Where existing facilities are being planned for, use facility planning data developed in accordance with AR 405-45, the regulation governing the inventory of military real property. In all cases review carefully ER 1110-1-102 and EM 1110-1-103 which establish standards and criteria for designing for the physically handicapped.

**(4) Site Development** Each of the following documents contains general reference material applicable to site development for military police facilities.

TM 5-803-3	Site Planning-General Technical Manual
TM 5-822-1	Traffic Study Requirements
TM 5-830-1	Planting Design
TM 5-830-2	Planting Turf
TM 5-830-3	Dust Control
TM 5-830-4	Planting and Maintenance of Trees

**(5) Design Execution** The following Army and Engineer Regulations are important in understanding design execution procedures which must be considered in the development of facilities designated for inclusion in MCA programs.

AR 415-20	Project Development and Design Approval
ER 1110-345-100	Design Policy for Military Construction
ER 1110-345-700	Design Analysis
ER 1110-345-720	Specifications

**(6) Completion Records** The following regulation is important in understanding the kind of records required to be transferred to the using service upon completion of a project.

AR 415-10	General Provisions for Military Construction
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## 1-4

### Project Development Emphasis

**a. DESIGN QUALITY** Special emphasis shall be placed on the quality of physical design since it vitally affects the longevity as well as the operational efficiency and functional effectiveness of military police facilities. In

addition to considerations of life cycle economy and utility, the overall planning and design of military police facilities must exemplify a significant architectural character and reflect a high level of aesthetic concern in the development of both building and site features.

**b. PLANNING AND DESIGN SERVICES** Selection of consultants to aid in the planning and design of military police facilities should be based on:

- (1) Continuing experience in design of complex operational facilities with similar functional and organizational requirements.
- (2) Demonstrated imaginative approach to physical programming, planning and design.
- (3) Experience in the development of modern, flexible and effective facilities.

**c. INTERIOR DESIGN SCHEME** An interior design scheme will be developed in conjunction with the overall plan of physical development and made compatible with basic planning and design concepts for all new facilities and for major alterations to existing facilities. Specific requirements for interior design will depend on the scope of individual projects and on the particular needs of the using service or its subordinate activity. The planning and design of interior environments and the specification of furnishings will be developed by professional consultants.

**d. MODERNIZATION AND IMPROVEMENT** In cases where modernization and improvement projects are required, special emphasis shall be placed on the identification and development of a step plan for project implementation. In most cases, the sequence of project accomplishment should allow for an orderly transition of military police activities without undue loss of functional effectiveness and operating efficiency. As a supplement to project completion records required by AR 415-10, instructions for the utilization of modernized or improved facilities and/or equipment should be prepared to allow the using service to take maximum advantage of specially designed spaces.

**e. USER INFORMATION** The provision of adequate user information is essential to the accomplishment of overall interior and exterior design requirements. User information will be included in a user's information handbook which will be assembled to help provide instructions on maintaining and operating primary and support facilities to maximum advantage. The book should cover major intentions for the utilization of interior spaces and built-in design features as well as related information concerning environmental controls and the operation and maintenance of HVAC, utility and service facilities.

## 1-5

### Project Development Responsibilities

**a. USING SERVICE** The using service for each particular project is defined in AR 415-10, General Provisions for Military Construction: its responsibilities are outlined in AR 415-20, Project Development and Design Approval. The using service, assisted when necessary by local Facilities Engineer personnel, must:

- (1) Establish actual functional requirements and space needs for specific projects in accordance with the project development procedures, planning guidance and design criteria provided in this guide.
- (2) Justify functional requirements falling beyond the scope of his guide.
- (3) Prepare and submit project requirements in the format (Project Development Brochure) required by AR 415-20.
- (4) Obtain installation action to gain site approval if the project is not sited in accordance with DA-approved master plan.
- (5) Prepare and submit DDForm 1391 and supporting data in accordance with AR 415-15, MCA Program Development.
- (6) Review and approve concept design drawings to certify compliance with functional requirements.

**b. DESIGN AGENCY** The Corps of Engineers field office responsible for design must:

- (1) Insure that the functional requirements of the using service meet the criteria contained herein.
- (2) Insure that the functional requirements of the using service are incorporated in the design.
- (3) Obtain justification for all deviations from this guide requested by either the using service (local provost marshal) or the operating agency (installation commander) and document these justifications in project evaluation and design analyses.
- (4) Insure that the quality standards for overall design are adhered to in accordance with military construction policy and the planning and design principles stated herein.
- (5) Insure that requirements for providing user information involving efficient and effective utilization of facilities and equipment, and long term operating procedures involving the care and maintenance of essential building and site elements are met at the completion of the project, and the necessary guidance and specifications provided to the using installation together with the completion records required by AR 415-10.

## Chapter 2 Project Development Guidance

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# Chapter 2

## 2-1

### General

**a. INTRODUCTION** This chapter describes general procedures to be followed by local using service and engineering personnel in developing programming planning and design guidance for individual projects. That guidance will be used by planners and designers to determine a wide range of physical and functional requirements for primary and support facilities.

**b. INTENT** The intent of the guidance in this chapter is to provide the local provost marshal, the using service's project personnel, and other participants in the project development process with a basis for:

(1) Broadening the scope of facilities planning and design concerns to include a careful consideration of the organizational, operational, functional, physical, environmental, aesthetic and human factors that affect the requirements of individual activities.

(2) Enhancing local potentials for identifying new opportunities for physical development.

(3) Assuring the accomplishment of projects that maintain or improve the functional effectiveness and operating efficiency of existing facilities.

(4) Focusing project development efforts on identifying facility and equipment needs which are more closely coordinated with the primary functional objectives of current military police programs.

(5) Achieving a more coordinated and interdependent relationship between organizational and physical development goals.

**c. BASIC APPROACH** In order to coordinate physical and organizational development, local provost marshals must institute a comprehensive approach both to the development of functional requirements and to the planning and design of facilities. This requires that the using service apply detailed project development procedures in identifying the functional programming and planning and design requirements of individual activities. Local constraints and opportunities will determine the specific character and sophistication of these procedures. Taking these local conditions into consideration, the using service (local installation) and the local provost marshal should establish basic project development procedures that meet the following:

(1) **Integrate Organizational and Physical Development Needs** Organizational development needs must be integrated with such elements of physical

development as operational, functional, environmental and aesthetic requirements. In reviewing the programming and planning procedures and building and site design guidance contained in this document, local provost marshals must give careful attention to the relationship between organizational needs and physical development requirements.

(2) **Provide Opportunities for Increased Organizational Effectiveness** In order to increase and reinforce organizational effectiveness, local provost marshals should continually evaluate the development potential of new or modified facilities and equipment requirements, review project data and design criteria developed during the planning, design and construction of similar facilities, and take part in or review the post-construction and occupancy evaluations of similar MP Facilities.

(3) **Expand the Basis for Identifying Long-Range Functional Requirements.** Most military police administrative and operational type activities can benefit from a more coordinated and long-range approach to identify functional requirements, especially if it leads to the identification of physical and functional requirements compatible to related activities or to supporting or cooperating services such as CID and SJA. In the case of strictly MP facilities, this may lead to authorization to consolidate a wide range of separate but related activities. Such consolidations may enhance operational efficiency and functional effectiveness and gain substantial cost savings from a larger scale construction program.

**d. LOCAL ENGINEER ASSISTANCE** Local provost marshals may require local engineer assistance in establishing project need and in the preparation of detailed project requirements. Current regulations (AR 415-20) require the using service to seek the cooperation, assistance and guidance of local Facilities Engineer professional consultants when there is a need to identify complex or detailed functional, physical, mechanical and technical requirements. Local installation and MP personnel should follow this guidance particularly during the stages of a project when detailed requirements must be properly and accurately identified and in the later stages that require the review of site planning, building design, interior design, and general construction and equipment specifications.



## 2-2

### Project Development Process

**a. GENERAL** A comprehensive approach to project development will require the use of a step-by-step process for identifying requirements. The complexities of this process require that standard procedures be set-up to identify programming and planning and design requirements. Requirements that are identified by the using service must, in turn, be communicated to the various participants in the project development process in stages. Those stages should correspond to generally accepted requirements for project-related planning and design information. Refer to Figure 2-1 which indicates the stages of the project development process and the information required to execute the design development stage for MP facilities. Figure 2-1 is, however, only a schematic outline and may require adjustment to meet local conditions and using service requirements. In all cases, specific procedures for identifying the requirements of individual projects should be established in accordance with AR 415-20, Project and Development Design Approval. The following provides general guidance for establishing those procedures.

**b. PROJECT DEVELOPMENT TASKS** Generally, individual projects will require that using service divide its responsibilities into project development tasks. These tasks have three principal phases of activity: Problem Identification; Problem Analysis; and Problem Solving. The checklist below will assist the using service in identifying the tasks required to accomplish the objectives of individual projects:

**(1) Problem Identification**

- (a) Systematically review personnel, equipment and facilities performance
- (b) Identify problem areas
- (c) Identify project need
- (d) Determine project emphasis
- (e) Select project coordinator
- (f) Initiate project liaison
- (g) Determine the need for special studies
- (h) Establish time/work schedule for accomplishing tasks

**(2) Problem Analysis**

- (i) Establish comprehensive development goals
- (j) Identify organizational and physical development factors
- (k) Determine the actual scope of the project in terms of size and cost
- (l) Estimate requirements for project accomplishment

**(3) Problem Solving**

- (m) Re-evaluate development goals
- (n) Establish site selection criteria and identify potential sites
- (o) Establish physical development (DD form 1391) and planning and design (Project Development Brochure) requirements
- (p) Finalize time/work schedule for accomplishing the principal elements of the project, including mandatory reviews

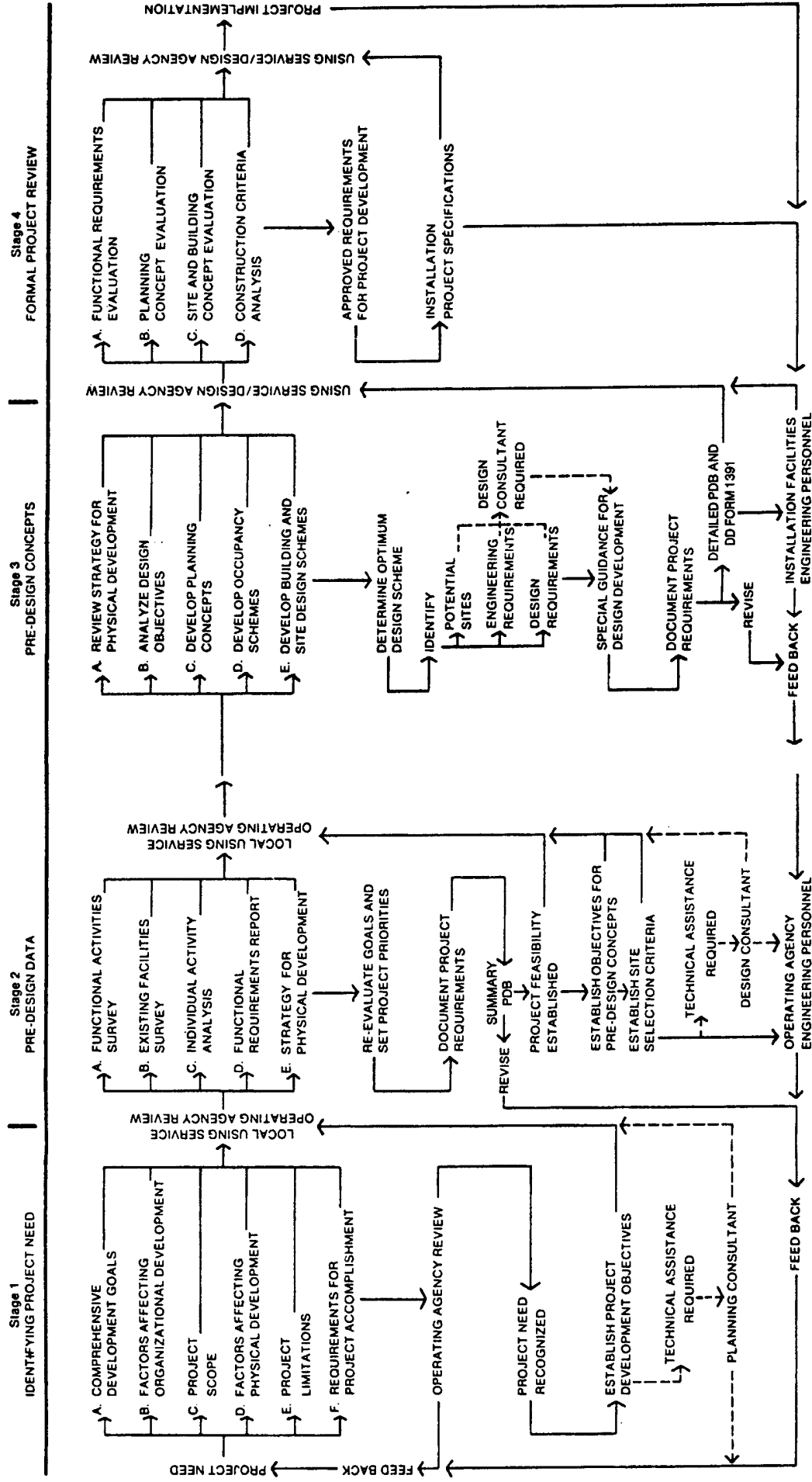
**c. TASK REQUIREMENTS** Each task in the project development process has a set of requirements that must be met before proceeding to a subsequent task. The prerequisite elements of each project development task are outlined in Figure 2-1 under the particular stage of the process in which they occur. In general, the reviews which preceded each stage are also prerequisites. Those reviews may be either formal or informal depending on the nature and scope of the project. Approvals described in Figure 2-1 are only advisory, not mandatory. AR 415-17 identifies mandatory approvals for technical information involving size and cost of facilities. AR 415-20 indicates the typical flow of decision-making for Army projects.

**d. PROJECT DATA REVIEW AND FEEDBACK** The using service should assign project development responsibilities to individuals with particular capabilities for managing complex situations. At each juncture in the locally-adopted process, the results of the previous stage of project development should be reviewed by the using service then recycled back to individual facility users, to other project participants, and to the various project development decision-makers for comment. Also, new requirements and additional information should be continually reviewed to determine what impact they might have on the initial identification of project need. The overall review and feedback process will require the scheduling of formal reviews by local military police and installation personnel as well as by higher level administrative, engineering and design, and HQDA (DAPE) and OCE personnel when necessary.

**e. DETAILED REQUIREMENTS** The using service must prepare detailed functional requirements during the various stages of project development. Local provost marshals may require assistance in stating the development goals and pre-planning decision of Stages 1 and 2. They may also require technical assistance from local engineer personnel or professional planning and design consultants. Technical assistance also may be required in identifying mechanical and operational equipment needs. For example, data processing, communications, security, lighting, HVAC and power requirements must be carefully evaluated in determining electrical and energy conservation needs.

Design Guide: Military Police Facilities  
Project Development Guidance: Project Development Process

Figure 2-1 Stages of Project Development



**f. DETAILED PROJECT DATA** Detailed project data must be prepared by the using service in accordance with the Army's project development procedures. This information will be used to support the summary data on the completed DD Form 1391 and will be contained in the Project Development Brochure as required by AR 415-20, Project Development and Design Approval. In developing detailed project data, the using service must identify project need, establish project requirements and provide essential project development guidance. An outline of the procedures involved in identifying project need is provided in Section 2-3. Section 2-4 describes the procedures for establishing project requirements at the local installation level. Pre-planning decisions that provide essential project development guidance are discussed in Section 2-5. These are only generalized considerations. Careful consideration should be given to the criteria and guidance in Chapters 3 and 4. In developing the specific planning and design requirements for new facilities. Chapter 5 should be referred to in developing requirements for existing facilities. Examples of detailed project guidance are presented in Chapter 6.

## 2-3 Determining Project Need

**a. GENERAL** Project need is usually determined at the lower levels of a military police organization. There are several instances where the need for new construction or modernization projects might be identified. These usually occur during the course of routine reviews of the performance of functional activities. However, it is not unusual for section supervisors or branch chiefs to directly identify deficiencies in facilities, equipment or staffing, and to bring these deficiencies to the attention of the local provost marshal. Also, local provost marshals and their operations supervisors or administrative support personnel may require subordinates to prepare special reports on functional and physical deficiencies. As a matter of routine review, performance levels are noted in the IG surveys of operations (Schedule X Reports). It is possible that the magnitude of deficiencies indicated in these reports will suggest the need for a physical remedy or a major reorganization in the way facilities, equipment and personnel interrelate. When this need is recognized, the local military police (provost marshal) or using service (installation commander) should determine whether or not there is a need for a specific planning, design or construction project and begin the project development process. The step-by-step procedures that follow should be completed before formally establishing project requirements.

**b. STEP 1: IDENTIFY PROJECT NEED** In order to identify project need, a clear statement of existing conditions must be provided as part of the formal statement of project need. The first step is to establish the physical and functional needs of individual activities. Generally, the statement of project need should include a simple description of the existing and desired level of functional performance for each activity included in the project, as well as a brief indication of the type and condition of physical and functional support (facilities, equipment, and personnel) required by each activity. It should indicate importance and adequacy of such factors as past present, and future personnel and equipment allocations (refer to existing TDA and MTOE) and the workload, work-flow and space utilization factors of both individual functions and the entire organization. It should also indicate general facilities limitations. These limitations might already be identified by a recent mission/function study or by the Army manpower management surveys for a particular activity. This information will provide the necessary background for making a preliminary estimate of personnel, equipment and facilities requirements.

**c. STEP 2: DETERMINE PROJECT EMPHASIS** The next step is to determine whether a project is facilities-, equipment-, or personnel-oriented. Planning, design or construction projects must be developed according to their emphasis. Facilities-oriented projects may require some technical assistance in the early stages of project development. Projects in which personnel and equipment needs are the most important planning and design factors may emphasize the need for adequate planning only and require a different approach altogether. Emphasis will be determined by simply weighing the separate factors (facilities, equipment, personnel) and aggregating them according to an estimate of the percentage of the total project effort. Large scale or involved projects may require an update of project emphasis once more detailed information is available.

**d. STEP 3: ESTABLISH PROJECT COORDINATION** Once the need and emphasis of a project have been determined, the local provost marshal should designate a project coordinator (or project team). A member of the local MP operations or administrative support staff should be assigned to the project according to the preliminary estimate of project emphasis. Personnel-oriented projects will require manpower planning and utilization expertise; facilities-oriented projects will require some knowledge of construction, etc. The project coordinator will be given the responsibility of developing a more detailed identification of project need and coordinating project requirements. Use of this approach will be one of the principal means of assuring the accomplishment of the using service's project objectives which are discussed in more detail in Section 2-4. Where the needs of an individual activity or entire organization are extensive or require immediate and timely attention,

and outside assistance will not be provided, the project coordinator should be assisted by additional administrative support personnel. The project coordinator and assistants will constitute a project team. This team will be chiefly responsible for identifying, analyzing and reviewing all project-related data. The coordination of project needs will usually involve the following:

**(1) Project Liaison** The local provost marshal, through the project coordinator, must establish a means for liaison with supporting personnel and services on projects that require professional engineering and design services. This is so that project needs can be both routinely reviewed by the provost marshal and coordinated with local engineering, design and construction personnel. Liaison should be established between the provost marshal and technical and engineering personnel when large scale projects have a balanced emphasis between facilities, equipment and personnel. Personnel-oriented projects principally concerned with a reorganization of existing functional activities and operations within current authorization levels and available facilities may not require engineering personnel to be involved in early project planning efforts.

**(2) Special Studies** Special studies to determine actual physical requirements may be needed for projects requiring new construction or extensive modernization and improvement, especially those requiring sophisticated communications and electronics equipment or security systems. Technical reports stating specific requirements may be required. Where they are, they should be reviewed by higher level military police personnel using technical assistance from installation C-E personnel. Projects involving major construction or improvement of mechanical, utility or environmental services may also require special studies and the application of professional engineering expertise. Depending on the availability of qualified personnel, the project coordinator may require special assistance from a planning consultant to conduct complex functional programming tasks and to organize and coordinate extensive facilities-planning and design requirements. Often the need for assistance is not apparent until more detailed information is available after the first assessments of project need are completed. The provost marshal will usually be in a position to identify the need for special studies or outside consultants. However, most requests for special studies should be made before the project has been fully organized.

**(3) Task Scheduling** Project emphasis, liaison requirements and the need for special studies influence the scheduling of tasks to be accomplished during the various stages of individual projects. The project coordinator should refer to Section 2-2, Project Development Process as a guide in determining the appropriate tasks for a particular project. Once the

required tasks have been determined, time allowances indicating desired dates for project accomplishment and specific staff responsibilities should be established and documented in a time/work schedule. This schedule should be included in the summary report on project need.

**e. STEP 4: DATA COLLECTION** The principal objective of this step is to identify current and future needs for facilities, equipment and personnel. Refer to Chapters 3 and 4 for guidance in identifying preliminary requirements. Depending on the complexity of the project, the collection of adequate data may require meetings with key personnel, a detailed inventory of equipment, or comprehensive reviews, surveys and inspections of functional activities and facilities. Initial data collection must identify.

- (1) Gross functional and physical needs of individual activities.
- (2) Internal physical and functional relationships of organizational components included in the project.
- (3) Relationships of project areas to separate MP activities and to related functional activities (e.g CID, SJA, etc. ).

**f. STEP 5: PREPARE SUMMARY REPORT** A summary report describing each aspect of the statement of project need should be prepared by the project coordinator. This report should include a brief description of the needs of each activity requiring organizational or physical development. When complete, this summary should be attached to the statement of project need and should be submitted to the local provost marshal for approval. Informal review by local engineering personnel may also be advisable where new construction projects might involve installation master planning approval. The summary report and statement of project need may also be formally reviewed by the installation commander once a preliminary review of project need has been made by local military police and installation engineering personnel. Once the need for a project is accepted and approved by a higher echelon using service, more comprehensive project data, including location, site and building requirements (size and cost), and a preliminary indication of planning and design requirements, will then be developed.

## 2-4 Establishing Project Requirements

**a. GENERAL** Once the Summary Report and Statement of Project Need have been accepted and approved, the first phase of project development ends and the next phase, Problem Analysis, begins. This phase

requires the development of more detailed project data. The first step in this phase involves the identification of comprehensive development goals. These goals should state organizational and physical development objectives. Development goals and other project requirements are usually established by the provost marshal in conjunction with installation engineering and manpower personnel. The detailed information developed in accomplishing the tasks in the Problem Analysis phase will be used in the subsequent Problem Solving phase. That phase will specify actual planning and design requirements. Outlined below are the tasks that must be accomplished by the provost marshal's project personnel in order to establish project requirements.

**b. STEP 1: ESTABLISHING COMPREHENSIVE DEVELOPMENT GOALS** Comprehensive development goals for individual activities must be established by local military police organizations. To ensure the development of functionally effective facilities this task should be assisted by installation engineer and manpower personnel. A statement of comprehensive development goals must be included in the documentation of project requirements (Project Development Brochure) as supporting information. The statement of individual goals should be limited to concerns involving organizational and physical development (facilities, equipment, personnel) and the requirements for planning and designing military police-type facilities. Clearly identified development goals will be of primary importance to facilities programming, planning and design decision-making. Such factors as the purpose of development goals, their functional objectives, principal aspects, relative importance and orientation to project requirements should be considered in establishing comprehensive development goals. These factors are discussed in more detail below.

**(1) Purpose and Need** The primary purpose of development goals is to provide an effective basis for the programming, planning and design of building and site facilities: the development of organizational components, and the satisfaction of individual functional requirements. The need for this approach is based on required improvements in the general quality and effectiveness of law enforcement programs and facilities. These improvements are chiefly directed toward achieving the following organizational objectives.

- (a) To improve the local military police organization's performance of their community service role.
- (b) To uniformly apply a management information systems capability at the local level for various types of military police organizations world-wide.
- (c) To increase the level of sophistication and rate of effectiveness for procedures used in routine military police operations, general operations administration, information development, communications, and police data processing.

(d) To facilitate the maintenance of physically and functionally adequate facilities, equipment and staffing capable of responding to the demands of growing organizational and operational complexity.

**(2) Functional Objectives** It is essential that comprehensive development goals identify the functional objectives of individual military police activities. The relationship of these objectives to the overall functional, community service and troop support requirements of the installation should also be identified. Performance criteria for individual functional activities and specific physical and organizational requirements of those activities must be considered. Once overall project requirements have been established at the local installation level, a re-evaluation and final approval of development goals will take place. After this reassessment the approved functional objectives will be used to determine an integrated set of physical development and planning and design objectives.

**(3) The Principal Aspects of Goals** In general, comprehensive development goals are composed of two principal aspects: the organizational needs and the physical needs. There may also be secondary aspects which could be of equal importance, such as the timing, cost and urgency of satisfying these needs, or the sequence in which goals are to be achieved. Also, the requirements of mandatory planning and design criteria or the need to conform to health, safety and operations regulations may be important factors. Another consideration is that each aspect may have sub-aspects. For example, a functional objective to develop an advanced word processing center might actually involve the identification of a number of related goals, e.g., shared-use of facility, reduction in clerical personnel allocations, an increase in office skills training, the provision of more human comfort and productivity features.

**(4) The Relative Importance of Goals** The using service must identify the importance of individual goals within each aspect classification (physical and organizational). Two or three goals may be more important than all the remaining goals combined. Thus, it will be helpful to assign a relative value of Importance to each goal within a classification and to each entire classification. Relative importance might be measured simply by a priority system, using a hypothetical scale of 1 to 10 where the most important is No. 10. Another system that can be used is a weighting system which rates goals according to a corresponding percentage of a one hundred percent (100%) aggregate value for the entire classification, the greatest portion of the whole being the most important.

**(5) Orientation to Project Requirements** The last but most important factor which should be considered in establishing comprehensive development

goals is project orientation. To identify and orient each goal the initial determination of project emphases should be considered. After all the factors that affect a project's development goals have been considered and a specific set of goals established, it may be necessary to adjust or redefine the statement of project emphasis referred to in paragraph 2-3. The goals that are identified must be organized in terms of the following project development and planning and design concerns:

- (a) *Mission Requirements*
- (b) *Organizational Requirements*
- (c) *Planning Requirements*
- (d) *Occupancy Requirements*
- (e) *Special Support Requirements*
- (f) *Detailed Activity Requirements*

**c. STEP 2: IDENTIFYING ORGANIZATIONAL AND PHYSICAL DEVELOPMENT FACTORS** The statement of project requirements must include sufficient background information to ultimately justify the proposal to construct, modernize, or improve facilities and/or equipment. This justification must be based on a determination that a particular project will be beneficial to the development of an organization's operational capabilities and the maintenance of its functional effectiveness. In justifying project requirements, the specific factors affecting organizational and physical development must be identified. This usually requires a description of project requirements in terms of the physical problems that constrain organizational development. Detailed and comprehensive descriptions are required since this data will be a major factor in determining the scope of physical development. Local provost marshals and installation commanders, therefore, should carefully consider:

**(1) The Need for Improvement of Facilities** Because of the special operational requirements of military police organizations, the need for physical improvement of facilities must be viewed in terms of the needs of other military criminal justice, law enforcement and security activities at a particular military installation as well as those of cooperating personnel services and community activities. Such a comprehensive view usually requires an evaluation of the physical and organizational benefits that could be achieved in combining or coordinating the need for facilities, equipment or personnel with the physical development of separate but related activities (CID, SJA, Community Centers, Health and Social Services, etc.). Current and projected trends in facilities planning, such as joint occupancy or the shared use of facilities by major supporting or co-operating organizations, must continually be evaluated in order to bring together the goals of related activities. This constant review of options may identify more beneficial development goals and lead to the establishment of requirements that will minimize

either the need for extensive physical development, the duplication of similar functions or the construction of new facilities with obsolete physical relationships. Similarly, a re-assessment of established development goals will be critical to determining the proper needs and organizational relationships of activities whose overall mission accomplishment and broad operational effectiveness depends to a significant degree on the cooperation, interaction or support of other organizations. Also, careful consideration should be given to development alternatives such as, new construction, modernization and improvement of existing facilities, etc. This is particularly important where the perpetuation of extended physical relationships would contribute to organizational and functional fragmentation.

**(2) The Requirements for Organizational and Physical Development** The actual requirements for a project will ultimately be determined by a careful analysis of existing operations, projected operational and administrative support requirements, current trends in mission accomplishment and the specific requirements for personnel and equipment. These problem areas must be studied in terms of how they relate first to the long-term military police support requirements of installation and tenant organizations, and second to the immediate and projected operational capabilities of a particular military police activity or facility. Technical assistance may be needed when the project under consideration is large scale or involves the achievement of organizational or physical development goals which are particularly important to an installation's overall mission effectiveness. It may be necessary for the local military police organization (provost marshal) or using service (installation commander) to seek technical or professional assistance in identifying the following specific requirements:

**(a) Development Potentials** The potential benefits of projects that provide for the shared-use, joint occupancy, or colocation of primary and support facilities by related activities must be assessed before development requirements can be determined. In most cases development requirements must concur with the DA-approved installation master plan. Local approvals will be required where it is possible that they will not be in accordance with the master plan. Approval will be based on the detailed functional requirements developed in accordance with criteria contained in this guide. In all cases, the development potential of various locations must be evaluated prior to setting specific locational constraints and facility and site development limitations. This is especially important where the comprehensive development goals of the using service indicate the need to re-organize or consolidate major elements of military police activities at one or more installations. Con-

sideration of potentially acceptable locations other than those provided for by the installation master plan is also important for projects related to maintaining the tactical strength and unit integrity of military police battalions assigned to major Army elements. Principal and subordinate elements of tactical military police units require training and administrative activities to be in reasonable proximity to the location of the primary military police installation support function. This may require the consolidation of military police support operations and tactical unit facilities (barracks and administrative areas). Such considerations apply primarily to Type A, B and C installations. There are exceptions: Type D installations, which integrate training and administrative staff responsibilities will require special attention in identifying alternative locations for the purpose of accomplishing desired physical development.

(b) *Personnel and Vehicle Accessibility* The adequacy of access to primary and support facilities will be an important physical development consideration. It must be possible to satisfy vehicle and pedestrian access requirements and on-site utility and building service access needs as well as properly locate MP operations equipment (routine patrol and specific operations vehicles, radio equipment, electronic devices, security sensors, (CCTV, IDD's, etc.). Provisions for adequate personnel and vehicle accessibility should conform to generally accepted safety, security and habitability standards.

(c) *Site Development* Consider such factors as the shared-use of joint occupancy or support-type facilities. These factors may enhance mission-effectiveness, increase operational flexibility and influence subsequent site selection by providing desirable economic and functional features. Such features might include increased opportunities for cooperation between separate but related law enforcement activities, more effective supervision of major subordinate MP activities (investigations, registrations, etc.) or improved command control. Also, consolidation of separate MP activities or the grouping together of a wide range of related law enforcement, criminal justice and community service activities may provide the built-in potential for future growth. The identification of desirable site development features will depend on budget considerations and on the long-range projections for change or stability in the internal structure, functions and requirements of present military police organizations.

(d) *Facility Development* Factors adversely affecting facility development should be identified in terms of their impact on functional and operational needs. Existing installation mechanical and utility supply, existing buildings and site facilities and site boundaries should be studied to determine their suitability and long-range capacity for satisfying future require-

ments. In order to ensure that individual project needs are met in the most efficient and cost-effective way, at least three alternative approaches to physical development must be identified and carefully studied. Special attention should be given to identifying options which do not require major new construction, such as the rehabilitation of existing MP facilities. Also, consider the possibilities of converting non-operational administrative or service-type facilities in terms of the physical and functional advantages and disadvantages of each potential location.

(3) **The Potential for Incremental Development** In establishing project requirements, the potential for and benefits of an incremental or phased approach to physical development should be assessed. The possibility of major changes in the scale and intensity of operations, coupled with budget limitations, may require that new or improved facilities be developed on an incremental or phased construction basis. In such cases, incremental development may involve the need to procure modular or pre-engineered-type equipment packages or to construct temporary facilities to house activities in need of immediate improvement. It may also involve the need to temporarily relocate operations or to totally replace existing facilities or equipment in a step-by-step fashion. Incremental development may be necessary where a review of mission requirements indicates there will be either substantial periodic increases in the demand for military police support or a dramatic rise in the level of complexity of on-duty operations.

d. **STEP 3: ESTIMATING PROJECT SCOPE** In order to properly establish project requirements, local provost marshals must estimate the scope of each project in terms of the size and cost of primary and support facilities. Reference should be made to criteria and guidance contained in DOD Construction Criteria Manual 4270.1-M and AR 415-17. Comprehensive development goals and the factors affecting organizational and physical development must be carefully evaluated. In estimating project scope. Refer to paragraphs 2-4b and 2-4c above. The actual estimate of project scope may be influenced by a military installation's general program for development and the approved scope of installation wide facilities planning and construction. In view of this basic limitation, the identification of detailed requirements should be coordinated with local installation. Facilities Engineering personnel. The estimate of project scope should be prepared in accordance with procedures described in Table 2-1. The following guidance should also be considered.

(1) **Project Development Procedures** The first step in estimating project scope is to identify current and projected organizational and operational requirements of individual functional activities. The sec-

Table 2-1 Procedures for Estimating Project Scope

RESPONSIBILITIES	PROCEDURES	REQUIREMENTS	REFERENCES
LOCAL USING SERVICE			
1. Identify Current and Projected Organizational and Operational Requirements	<ol style="list-style-type: none"><li>1. Indicate factors affecting organizational development<ol style="list-style-type: none"><li>a. Identify factors that may immediately indicate an appropriate strategy for physical development</li></ol></li><li>2. Establish operational characteristics<ol style="list-style-type: none"><li>a. Consider the capacity for immediate and future physical development and review local using service and operating agency and systems of existing operations (Inspector General's and Schedule X reports)</li><li>b. Indicate potential for satisfying future organizational and operational needs related to the principal operating activity</li><li>c. Consider existing or projected functional relationships of related or cooperating activities</li></ol></li><li>3. Establish physical characteristics<ol style="list-style-type: none"><li>a. Determine the potential of existing site, building, mechanical, structural and environmental systems</li><li>b. Consider long-term operating cost, life cycle cost, usefulness and utility requirements of current and projected functional activities</li></ol></li><li>4. Tabulate personnel, functional, physical, environmental, and technical needs for:<ol style="list-style-type: none"><li>a. Individual activities</li><li>b. General functional areas</li></ol></li></ol>	<ol style="list-style-type: none"><li>1. Individual military police organizations shall collect, evaluate, organize project-specific data pertaining to functional, operational, physical and environmental requirements</li><li>2. Local using services shall identify organizational considerations</li><li>3. Local using services shall identify operational characteristics</li><li>4. The local using service and the operating agency must review personnel and equipment requirements and approve preliminary scope of activities to be included in each project</li></ol>	<p>Chap. 2: Procedures for establishing individual organizational requirements</p> <p>Chapter 3: Procedures for establishing individual physical requirements</p> <p>Chapter 4: Procedures for identifying organizational, operational requirements of functional activity zones and individual functional activities</p> <p>Chapter 5: Survey of existing facilities will establish the basis for rehabilitation/conversion projects</p>
2. Establish Primary Facility Requirements	<p>To determine the size and space requirements of principal and supporting functional areas, organize requirements according to the following categories of space:</p> <ol style="list-style-type: none"><li>1. Staff space. Includes occupied space required by principal functional activity<ol style="list-style-type: none"><li>a. Tabulate personnel requirements by individual functional activity</li><li>b. Tabulate future total personnel and equipment requirements</li><li>c. Identify number of staff positions allocated for administrative support and command staff</li><li>d. For net staff space, multiply total number of staff for given functional activity by the approved space allocation standard.</li></ol></li><li>2. Functional support space. Includes special space, common-use space, unoccupied and occupied support space and essential support facilities required by a particular functional activity. Consider operational support factors in developing special space requirements.</li><li>3. Access and circulation space: Space added to estimate of staff and support space to provide for the proper internal relationship of functional activities. Apply operational facilities planning factor to sub-total of net staff and support space requirements.</li><li>4. Mechanical equipment space: 5% of a, b, and c totals. Apply mechanical equipment space factor (5%) to primary facility requirements in establishing total space requirements</li></ol>	<ol style="list-style-type: none"><li>1. The local using service must identify the proportion of the project allocated to:<ol style="list-style-type: none"><li>a. Staff space</li><li>b. Functional support space</li><li>c. Access and circulation space</li><li>d. Mechanical equipment space</li></ol></li><li>2. Relate functional support space requirements to workload and mission effectiveness</li></ol>	<p>Chap. 3: Procedures for establishing individual physical requirements</p> <p>Chap. 3: Environmental services design considerations</p> <p>Chap. 4: Procedures for developing special space, common-use space and support facility requirements</p>
3. Establish Support Facility Requirements	<p>To determine physical, mechanical and technical requirements for support facilities and building and site utilities, establish the following:</p> <ol style="list-style-type: none"><li>1. Requirements for parking<ol style="list-style-type: none"><li>a. Operational Parking<ol style="list-style-type: none"><li>• Determine on basis of number of specially assigned support operations personnel.</li><li>• Determine site area by multiplying number of required personnel by approved space allocation factor for required space.</li><li>• Determine landscape planning, screening, and security fencing for operational vehicles</li></ol></li><li>b. Staff/POV Parking<ol style="list-style-type: none"><li>• Determine required site area and landscape screening by multiplying half of building occupants allowable space allocation factor by number of vehicles.</li><li>• Make provisions for physically handicapped</li></ol></li><li>c. Visitor Parking<ol style="list-style-type: none"><li>• Make provisions for physically handicapped</li><li>• Make provisions for unusual visitor traffic</li></ol></li><li>• Determine site area by multiplying number of required spaces by allowable space allocations; add landscape factor</li></ol></li><li>2. Determine site area requirements for:<ol style="list-style-type: none"><li>a. Site utilities supporting primary facilities</li><li>b. Parking space (handicapped)</li><li>c. Open space</li><li>d. Site access and circulation space</li></ol></li><li>3. Use primary facility data (staff totals, access, etc.) to determine any additional parking, open space, site access and circulation requirements</li><li>4. Open space requirements must consider need for:<ol style="list-style-type: none"><li>a. expansion of primary and supporting facilities</li><li>b. site landscaping</li><li>c. development of buffer zones</li><li>d. set-back and site development constraints of security, confidentiality, restrictions of installation Master Plan</li></ol></li><li>5. Site area requirements depend on availability of direct access from major and secondary vehicular transportation routes</li></ol>	<p>Chap. 3: Building and site design considerations</p>	



ond step is to have local installation and military police personnel analyze and evaluate this preliminary data. Higher echelon installation command or HQDA (DAPE) approvals may also be required at this point. It is recommended that before higher echelon review and approval is sought, the preliminary requirements for physical development be coordinated with the local installation engineering planning and design personnel to ensure that no essential building or site development consideration has been overlooked. The installation's physical development policies and HQDA approved Master Plan requirements as well as procedures relating to exceptions to master plan and site selection requirements must be reviewed. Any required action must be coordinated with established project requirements.

**(2) Local Reviews** The primary purpose of local project review and approval procedures is to establish as early as possible those pre-planning decisions and project objectives that will eventually determine:

- (a) actual physical and functional requirements*
- (b) relevant planning and design criteria*
- (c) appropriate strategies for project development*

**(3) Higher Echelon Guidance**

Large scale projects may require higher echelon military police guidance in the preparation of actual project requirements. When provided, this guidance will govern local planning and design. This guidance should indicate to the local provost marshal the need to consider such factors as possible or probable changes in organizational development requirements, current staff relationships to related functional activities, current and projected military, civilian and male/female personnel requirements. Special space and equipment requirements, operational support activities (CID, SJA, etc.), and other special functional, mechanical or technical requirements should be given careful consideration by higher echelon personnel in preparing guidance for project accomplishment. Higher echelon guidance should be as specific as possible in order to enhance and extend the accuracy and consistency of final project size and cost estimates.

**(4) Project Size and Space Requirements** When organizational and physical development factors indicate the need for totally new construction, follow the procedures outlined in Table 2-1 to estimate project size and space requirements. In general, the requirements for new construction should identify the physical and environmental needs of individual functional activities and general functional activity zones. Refer to Chapter 3 for detailed site and building design criteria and to Chapter 4 for appropriate space organization principles.

*(a) Staff Space* Staff space is determined by tabulating the aggregate of full-time personnel allocations for individual functional activities and listing them according to general functional activity zones. The total will combine full and part-time positions. Table 2-2 indicates possible staff and space requirements for typical small, medium and large military police facilities. In estimating each project's actual staff space requirements the using service must identify the projected personnel requirements for short, middle and long term organizational and physical development. This involves identifying the current requirements for the target year in which building occupancy will occur. Target year requirements constitute short term needs. Middle term requirements are set at the end of a three to five year period following the projected date of occupancy. Long term requirements are set at the end of a five to ten year period following the projected date of occupancy. The span of years will depend on the degree of change that can be expected in staff space requirements of each activity area. Total requirements for each period should indicate the relative importance of flexibility and change with respect to the anticipated increase or decrease in staff positions and the functional support space they require. To arrive at net staff space requirements, simply multiply total staff for a given functional activity by the space allocation standard for that particular functional activity.

*(b) Functional Support Space* Functional support space usually includes unoccupied space directly related to and essential for the accomplishment of a particular functional activity. For example, the need for interview rooms might depend on the level of privacy and confidentiality required by either MP investigators or on-duty personnel. This particular need depends on mission-effective requirements to maintain the security and integrity of investigative operations. In general, the requirements for functional support space depend on the number and sophistication of the staff supported. Ratios between staff space and interview rooms are useful guides to determining the specific need for this type of space. In order to adjust general space allocation criteria to reflect functional support space requirements, a functional support factor should be used. As Table 2-2 indicates, the application of this adjustment factor should be related to the number of staff positions required for a given military police operation.

*(c) Access and Circulation Space* Access and circulation space is that space which is added to the estimate of staff and functional support space in order to provide the proper physical relationship between functional activities. The space required for access and circulation will be determined by applying a 43 percent operational facilities planning factor to

Table 2-2 Primary Facility Requirements\*

		SMALL		MEDIUM		LARGE	
		Staff	Space	Staff	Space	Staff	Space
Zone 1	<b>Provost Marshal Activities</b>	8	1,618	10	1,980	13	2,594
	1—Provost Marshal Office						
	2—Community Relations						
	3—PM Administrative Support						
	<b>Total</b>	8	1,618	10	1,980	13	2,594
Zone 2	<b>Military Police Services</b> (Administration Related)						
	1—Public Assistance		600		700		750
	2—Community Activities		1,230		1,484		1,650
	<b>Total</b>	(1)**	1,830	(1)**	2,184	(1)**	2,400
Zone 3	<b>Military Police Services</b> (Operational Related)						
	1—Registration Services Section	2	912	3	1,524	5	2,572
	2—Traffic Section	6	1,171	8	1,321	13	1,936
	<b>Total</b>	8	2,083	11	2,845	18	3,508
Zone 4	<b>Military Police Operations</b> (Operations Support Related)						
	1—Operations Office	3	718	4	913	5	1,030
	2—Operations Administration	13	2,784	19	3,567	25	4,668
	3—Operations Support Services						
	(a) Liaison Section	1	275	3	455	5	870
	(b) Community Service Section	2	582	3	858	5	1,188
	(c) Absentee Control Section	3	448	5	780	9	1,232
	<b>Total</b>	22	4,807	34	6,473	49	8,988
Zone 5	<b>Military Police Operations</b> (Routine On-Duty Related)						
	4—Investigations	6	1,650	12	2,425	16	3,076
	5—Physical Security	2	416	6	1,002	8	1,340
	6—On-Duty Operations	3	1,890	5	2,360	6	2,750
	7—Operations Support Facilities	1	1,760	2	2,900	4	4,800
	(a) Briefing/Training						
	(b) Lockers and Showers (Male & Female)						
	(c) Operations Equipment Storage (Interior)						
	<b>Total</b>	12	5,716	25	8,777	34	11,966
	<b>Net Functional Area</b>	50	16,054	80	22,359	114	30,456
	<b>Net Area Planning Factor</b>		1,605		2,236		3,046
	<b>Mechanical Equipment Area</b>		801		1,125		1,523
	<b>Primary Facility Requirements</b>	50	18,460	80	25,720	114	35,025

\*Primary Facility Requirements include unoccupied space used to support primary functional activities. The staff/space ratio for each zone reflects this additional space.

\*\*Part-time Occupancy, position not included in staff totals.

the sub-total of net staff and functional support space. This factor is considered minimal in comparison to the typical building planning factor of 33 percent of the net functional area. The increase occurs when appropriate consideration is given to the special access and circulation requirements of MP facilities.

(d) *Mechanical Equipment* The use of a factor of 5 percent of the space required to satisfy primary facility needs (Staff Space, Functional Support Space, and Access and Circulation Space) is suggested as a way of estimating the space required for mechanical equipment. The actual space allocation will depend on the level of sophistication of the mechanical systems required and the existing or available utility services. In some instances this space may include accessible rooftop mechanical equipment. Refer to Section 3-6 "Environmental Services Design", for general criteria and guidance.

(e) *Support Facility Requirements* Staff requirements and primary facility size will be used to determine support facility requirements. These requirements include site utilities, operational, administrative and visitor parking; open space and the site access and circulation space required by a particular scale of operation. Table 2-3 describes typical requirements and provides an example of the site area required by support facilities.

(f) *Parking* Military police parking requirements are divided into three categories: operational parking, administrative parking, which includes the requirements for staff/POV parking; and visitor parking:

- *Operational Parking* – These requirements are determined on the basis of the actual shift size and patrol compliment assigned to a particular military police facility and the number of uniformed police personnel (operations and administrative support) required to conduct primary operations. To provide adequate operational parking space, use a ratio of 2 operational vehicle parking spaces to every 3 staff positions allocated for military police operations activities. Where site area is less than adequate or parking space is limited by expansion needs, the parking space for individuals assigned to routine on-duty activities (MP Desk, MPI, etc.) may be deducted from operational parking totals in order to provide adequate operational parking facilities. The site area required for operational parking including provisions for impound lot, guard mount and security enclosure (high fencing, walls, etc.) is determined by multiplying the number of required spaces by 600 sq. ft. and then adding an open space factor of 15 percent of the net area to accommodate required landscape planting, screening and security provisions (night lighting, closed circuit surveillance, etc.). Refer to Table 2-3 for guidance.

- *Staff/POV Parking* – These requirements are determined on the basis of standard parking allocations which provide one parking space for every two building occupants. Provisions for the physically handicapped are required for staff/POV Parking. The site area required for staff/POV parking including landscape planting areas for screening is determined by multiplying one-half of the building's occupants by 450 sq. ft. This will provide adequate spacing, pass-through and turn-around provisions to avoid deadend parking and allow accessibility of essential building services. Refer to Table 2-3 for guidance.

- *Visitor Parking* – Visitor parking requirements are determined on basis of the volume of community service type activities (registrations workload, community services caseload, requests for MP information, accident and investigations workload, intensity of the community relations program etc.) As a preliminary guideline, one visitor parking space is usually provided for every full time staff position in Zones 4, 5. Also the classification of Zone 1, Zone 2 and Zone 3 visitor traffic as heavy, medium, or light influences the need for additional visitor parking requirements (Zone 1 visitor traffic is generally light). However, to identify requirements that reflect specific conditions, apply the following formula: Provide two additional visitor parking spaces for light visitor traffic, three additional visitor parking spaces for medium visitor traffic and four additional visitor parking spaces for heavy visitor traffic. In all cases, one additional handicapped visitor parking space must be provided when visitor parking space requirements exceed ten (10) spaces and two (2) additional spaces when normal requirements exceed twenty (20) spaces. The site area required for able-bodied visitor parking is determined by multiplying the number of spaces required by 450 sq. ft. The area required for handicapped parking is determined by multiplying the number of handicapped visitor parking spaces by 525 sq. ft. A factor of 15 percent of the total net area required should be added in order to accommodate the landscape planting requirements directly related to visitor parking. Refer to Table 2-3 for guidance.

(g) *Open Space Requirements* The site area required for open space will be determined by multiplying the total land area required for primary facilities and operational, staff/POV and visitor parking, including future expansion area, by an open space factor of 60 percent. Where structures are of more than one-story, occupancy requirements would not be directly reflected in the land area used for buildings. To allow for such locational constraints open space requirements should be increased by using the total floor area for expanded primary facilities instead of land area requirements. The application of

Table 2-3 Support Facility Requirements

Required Areas	Items Included
Parking	Parking, Turning & Pass-Thru Space, Landscaping, Fencing, Lighting & Signage
Operational Staff/POV Visitor	Guardmount/Secure Parking, Impound Lot, Operations Equip. Stor. Drop-off Zone, Handicapped Parking, Staff & Reserved Spaces Drop-off Zone, Handicapped Parking, Service Access, Reg. Sec. Parking
Open Space	Set-back, Buffer & Expansion Areas, Site Utilities: Communications, Water, Sewer, Gas & Electric, Site Work: Grading, Paving (sidewalks) Fencing, Walls, Lighting, Landscaping & Signage
Access Space	Approach, Entry, Drives, Walks, Landscaping, Lighting & Signage
<b>Small Size MP Facility (Staff Size: 50)</b>	
<b>Sq. Ft. Area</b>	
Primary Facility Requirements	18,960
<b>Functional Support Facilities</b>	
Parking	11,100
Operational Staff/POV Visitor	9,600
Open Space	4,100
Access & Circulation Space	25,956
Support Facility Requirements	12,978
Minimum Site Area Requirements	63,739
<b>Medium Size MP Facility (Staff Size: 80)</b>	
<b>Sq. Ft. Area</b>	
Primary Facility Requirements	25,720
<b>Functional Support Facilities</b>	
Parking	19,000
Operational Staff/POV Visitor	12,600
Open Space	6,200
Access & Circulation Space	38,112
Support Facility Requirements	19,056
Minimum Site Area Requirements	94,968
<b>Large Size MP Facility (Staff Size: 114)</b>	
<b>Sq. Ft. Area</b>	
Primary Facility Requirements	120,688
<b>Functional Support Facilities</b>	
Parking	35,025
Operational Staff/POV Visitor	31,700
Open Space	21,500
Access & Circulation	8,400
Support Facility Requirements	57,975
Minimum Site Area Requirements	28,988
Support Facility Requirements	148,563
Minimum Site Area Requirements	183,588

total floor area as a way of calculating open space requirements will depend on the land use and site density requirements and on limitations of the installation master plan. Examples of open space requirements are provided in Table 2-3 for guidance. In evaluating open space requirements, take into consideration the need for:

- *Expansion of primary and support facilities*
- *Site landscaping*
- *The development of buffer zones, and*
- *The set-back and site development constraints that pertain to security, confidentiality and the restrictions of the installation Master Plan.*

(h) *Site Access and Circulation* The area required for adequate site access and circulation must be calculated in order to determine minimum site area requirements. These requirements typically depend on the availability of direct access from major and secondary vehicular transportation routes. Generally, 30 percent of the total land area required for fully expanded primary facilities and parking exclusive of other site elements will be adequate to provide the essential access and circulation. However, specific area requirements may be increased or decreased by location and site constraints that limit or allow easy site access, use of existing adjacent parking facilities or the shared-use of supporting facilities (drives, secure parking, staff parking, etc.) by related functional activities. On average, the typical preliminary estimate of access and circulation area can be reduced by efficient and functional planning of actual site traffic and parking requirements. Estimates that use the 30 percent factor usually provide the flexibility and opportunity to achieve the most operationally effective relationships between essential site elements and functional requirements.

**(5) Project Cost Estimates** Local provost marshals with the assistance of engineer personnel are responsible for estimating the cost of individual projects. These costs will be based on current trends in military construction and on mission-peculiar constraints and opportunities that may influence the establishment of project-specific requirements. The following guidance will assist local using service and engineer personnel in determining individual project cost estimates:

- (a) Empirical cost estimates should be prepared in accordance with AR 415-17, which provides unit cost figures for all types of facilities.
- (b) Military police facilities are categorized as operational facilities. They have a category code number (700 series) which should be used in determining empirical cost estimates for military construction.

(c) The unit cost figures shown in AR 415-17 include equipment and furniture which is permanently built into or attached to the structure or the confines of the site.

(d) Tables 2-2 and 2-3 contain the items which will normally be included in the initial estimate of project cost. Detailed requirements may be established by referring to the functional and physical characteristics and individual criteria contained in Chapter 3.

**(6) Local Requirements** Local requirements peculiar to an individual functional activity or to the installation's military police mission must be identified by the local using service. In identifying local requirements, the following factors should be considered:

(a) *Organizational Requirements* At the outset, the local identification of individual organizational requirements, as discussed in Section 2-3, may indicate whether a particular approach to physical development is appropriate (new construction, modernization and improvement, relocation, consolidation, etc.). In general, the organizational and operational requirements of functional activity zones and individual functional activities, as discussed in Chapters 3 and 4, will establish the appropriate project requirements for planning and design of new construction.

(b) *Operational Characteristics* Local provost marshals should identify the specific operational characteristics that will satisfy future organizational and operational needs. The relationship between existing or proposed military police facilities and related activities (CID, SJA, etc.) should be considered in determining requirements for support facilities, building location and orientation and the scope and quantity of site elements for a particular scale of operation. Where opportunities for shared operational use of facilities such as access roads, operational parking, or utility and security services exist or are planned, such opportunities should not interfere with the provisions of essential project requirements but should be considered as one of the determining factors in establishing site development and site building size requirements.

(c) *Physical Characteristics* Existing requirements for immediate and future physical development must be considered by both local using service, engineer and design agency personnel in analyzing functional requirements. Site, building, mechanical, structural and environmental systems will be planned and designed to provide the physical characteristics and potential to accommodate efficiency, economy, utility and maintenance requirements, and reflect the long-term operating and life cycle costs of current and projected functional activities. The organizational, operational, and functional requirements which gen-

erally shape the physical environment for new construction will not have as strong an impact on establishing the project requirements for the rehabilitation/conversion of existing facilities. This is primarily due to the fact that the form, content, quality and dimension of what already exists has the strongest influence on overall project planning and design, and particularly on the provision of functional requirements for rehabilitation/conversion projects. Refer to Chapter 5 for the criteria governing the establishment of requirements for rehabilitation/conversion projects.

(d) *Site Development* Generally, site boundaries and the extent of site development are determined in response to the need for projected increases or changes in functional and operational requirements. These requirements can best be accomplished where initial site development and support facilities provide potential for future development. This potential should not exceed a 50 percent growth factor in the near and middle term. However, if essential requirements of future operations should mandate a greater increase, this should be considered in determining either the long-term functional requirements for new construction or the ultimate feasibility of rehabilitation/conversion projects.

**e. STEP 4: FUNCTIONAL REQUIREMENTS REPORT** After all the relevant organizational, operational, physical and site development data have been reviewed and approved at the local level, they should be summarized as the introduction to a functional requirements report. This report, used to prepare the Project Development Brochure, presents project development data and requirements for new construction in a form comprehensible to the authorizing agency and later to the design agency and to project evaluation personnel (District Engineer or AE). Normally, this will be accomplished in accordance with procedures established in AR 415-20, Project Development and Design Approval. The project size and cost estimates established on the basis of the functional requirements report provide a means for determining an appropriate project development strategy. Individual project requirements result from a logical progression of facilities-programming steps which must be reflected in subsequent and equally logical and carefully organized pre-design concepts. In terms of documentation, the functional requirements report serves several project development purposes.

- (1) To state the programming, planning and design method used to develop the space program and determine project size and cost.
- (2) To state the project-specific requirements, planning and design criteria and actions necessary to achieve physical development in accordance with established project-development procedures.

- (3) To guide the supporting services and engineering and design personnel in the development of pre-design concepts which implement the program, and to provide design development criteria against which final project accomplishment can be measured.

- (4) To serve as a permanent record and consistent format, which can be updated if and when conditions change during the project development process.

- (5) To act as the principal project reference document for project programming, planning, design and evaluation personnel.

**f. STEP 5: STRATEGY FOR PHYSICAL DEVELOPMENT** The provision of functional requirements can be achieved in a number of ways. To maintain control over the way in which a project is accomplished, each project will require a strategy for physical development. Physical development strategies act as the foundation for subsequent decision-making. The using service must consider all the preceding project requirements in establishing an individual strategy for physical development. The organization and contents of specific strategies will depend on the nature and scale of MP operations and the specific project objectives determined by pre-planning decisions.

(1) **Current Development Concepts** Each strategy for physical development must be based on currently accepted and approved concepts for organizational development. A conceptual framework for each strategy can be constructed by relating the concepts for organizational development to the current standards for effective operation of a particular military police activity. This conceptual framework, when applied to the planning and design of military police facilities, must be specifically related to the functional and physical requirements of individual activities.

(2) **Practical Planning and Design Applications** Strategies for physical development will be used by the design agency to evaluate planning and design requirements and to develop pre-design concepts. Thus, there must be practical application to the planning and design process. Examples of the application of comprehensive physical development strategies are presented in the illustrative examples contained in Chapter 6. To assure that adequate consideration is given to the principal factors affecting project development, the using service should develop strategies only after carefully reviewing planning and design guidance contained in Chapters 3 and 4.

## Chapter 3 General Planning and Design Guidance

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## Chapter 3

### 3-1

#### General

**a. INTRODUCTION** This chapter provides criteria which will assist using service and design agency personnel in the planning and design of military police facilities and will aid in the evaluation of functional requirements, pre-design concepts and design development documents. This guidance will also assist using service personnel in the preparation and evaluation of planning and design data required to establish project need. The general criteria contained in this chapter will assist installation, Facilities Engineer and Corps of Engineers field or district office personnel in determining the most effective construction program suitable to the development of required Army military police facilities. Planning and design must be accomplished in conjunction with Army regulations and DOD criteria referenced within. This chapter contains governing criteria generally applicable to the construction of new military police facilities. For projects involving the modernization/improvement of existing facilities, this chapter should be used only as a general reference, more specific guidance for such projects is provided in Chapter 5, Criteria for Upgrading Existing Facilities.

**b. EMPHASIS** This chapter is directed towards establishing guidelines for the planning and design of the total facility and in correlating the various steps and activities that are part of this comprehensive planning and design effort. A thorough understanding and careful use of the General Planning and Design Guidance should aid in the physical development of an economic, efficient and functionally effective facility with a life cycle cost and operating and maintenance features in keeping with the long-term requirements of military police operations. Use of this guidance will also assist using service and design agency personnel in coordinating interior and exterior design requirements while maintaining a consistently high level of architectural quality and construction value.

**c. REQUIREMENTS** To accomplish the planning and design objectives of individual projects, the using service must carefully identify functional needs in terms of specific design elements: site, building, structural system interior design, furniture and equipment, environmental services and user information, including, where need be, detailed specifications for the acquisition and installation of interior and exterior furniture and equipment. In addition to providing the necessary MP operations guidelines and general equipment checklists, the using service, with the assistance and cooperation of the design agency, must also provide detailed performance operation and maintenance standards for

the design and construction or acquisition of special facilities and equipment used exclusively for military police operation. In all cases, the planning and design of military police facilities must reflect the criteria and guidance contained in current and relevant Army regulations, technical manuals as well as the general DOD criteria referenced in this document. It is essential that all pertinent MP documents be reviewed by the project coordinator, and operating requirements correlated with specific design and construction requirements.

### 3-2

#### Site Design Considerations

**a. GENERAL** Requirements for site design are discussed in the following paragraphs. Table 3-1 provides a checklist of important considerations which the using service must take into account in identifying specific site design considerations. In all cases, sites should be selected in accordance with procedures established in AR 210-30. Generally, site location should conform to that established on the installation Master Plan approved

Table 3-1: Site Design Considerations

- (1) **Building/Site Relationships**
  - (a) Parking/Vehicle Access
  - (b) Development Easements
  - (c) Buffer Zones
  - (d) Visual Approach
  - (e) Views
  - (f) Desirable Elements
  - (g) Undesirable Elements
  - (h) Micro-Climate
- (2) **Vehicular/Pedestrian Systems**
- (3) **Physical/Visual Access**
  - (a) Public Access
  - (b) Private Access
  - (c) Confidential Access
- (4) **Provisions For Handicapped**
- (5) **Building Services**
- (6) **Lighting**
- (7) **Landscape Planting**
  - (a) Uses
  - (b) Parking Area
- (8) **Signage**
- (9) **Site Furniture**
- (10) **Site Utility Support**
  - (a) Heat
  - (b) Electrical
  - (c) Water
  - (d) Storm Drainage
  - (e) Sanitary Drainage
  - (f) Location

by Headquarters, Department of the Army Site planning and the organization of site elements should be based on procedures and guidelines contained in DOD Manual 4270.1-M, TM 5-803-3 and TM 5-822-2. Actual site planning documents required by individual projects should be prepared in accordance with procedures and guidelines contained in TM 5-803-3.

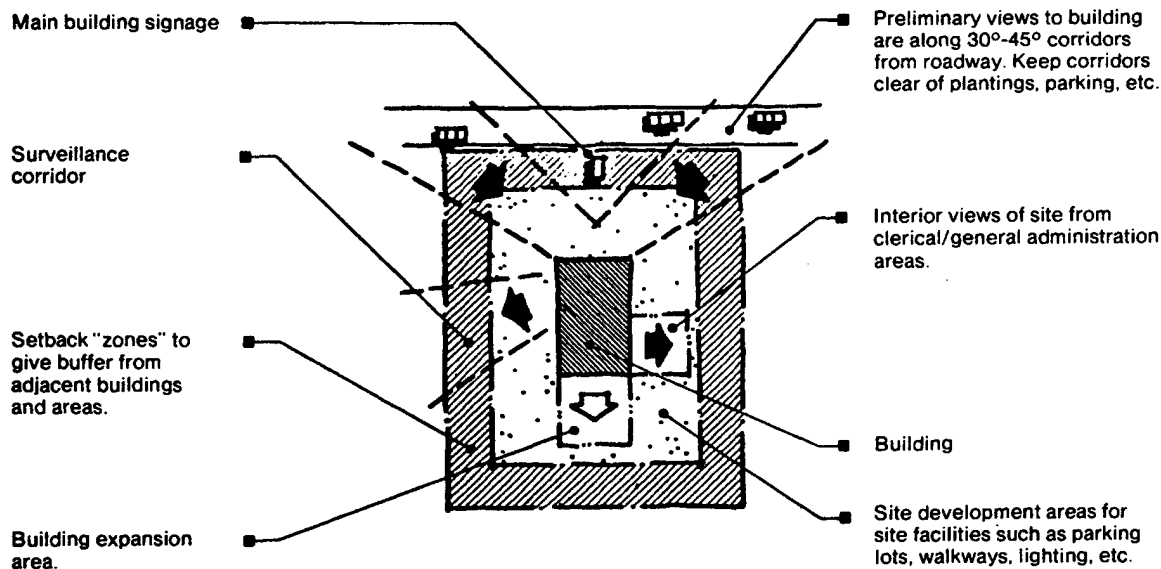
**b. BUILDING/SITE RELATIONSHIPS** Siting of buildings should be developed with reference to guidelines and procedures contained in TM 5-803-3. This document provides site orientation guidance as related to sunlight, prevailing winds, and the effects of solar load on mechanical systems. Figure 3-1, below, provides supplementary guidance. The following factors must be considered and provided for in establishing proper building/site relationships:

**(1) Separate Parking and Vehicle Access** Access to military police facilities is divided into two categories: public and private. The site design characteristics of public access, whether by vehicle or as a pedestrian, should clearly indicate openness to visitor traffic. In addition to the programmed public

parking, consideration should be given to the use of shared parking with other facilities to provide for peak load visitor traffic. The private access will include: secured parking for operational and impoundment areas (The area for the operational vehicles may serve a dual use for guard mount), screening of secured parking areas and patrol - POV parking. Parking for POV vehicles does not require a secured area and should conform to paragraph 3-2c, "Vehicular and Pedestrian Systems." Consideration should also be given to the construction of planted earth berms to provide visual screening beyond the secure fencing of the police/offender entrances and secured parking areas.

**(2) Development Easements** Figure 3-1 shows site constraints that should be considered in identifying development easements. There are several areas of the site upon which little development occurs, but which, nevertheless, are important for the open space which they represent. Certain site areas should be reserved for future building or site element expansion. While the planting of large-scale trees or intensive site development should logically be withheld from these areas, non-permanent landscape

Fig. 3-1 Building Site Considerations



elements can still provide the project with accent and interest. The use of low to medium shrubs, non-permanent benches and other movable or replaceable site elements should be considered.

**(3) Buffer Zones** Another area of the site which should be "reserved" for open space or future development is the site development buffer zone adjacent to the project boundaries. Similar to "yard" setbacks, this space is necessary to provide the "breathing room" needed to separate this facility from adjacent uses. This is especially important due to the nature of security and confidential operations located on the private side of the site. Specific zone distances should be established in Figure 3-1 as "minimums" and not as "preferred distances". The extent of the buffer zone should be as large as conditions allow and should take into consideration:

*(a) Existing Land Uses* Consider the compatibility of MP activities with surrounding land uses, especially the proximity of adjacent uses

*(b) Existing Landscape Features* Preservation of natural landscape features is an important site design consideration. Use of a buffer zone can effectively maintain the presence of existing trees or other plant material

*(c) Project Scale* Consider the impact on the surrounding natural and man-made environment caused by the scale of project development: i.e., land use intensity, building height and mass.

**(4) Visual Approach** Persons approaching the site by car normally view the building from an oncoming angle of from 30 to 45 degrees, rather than from directly in front. This oblique view of the facility is frequently necessary to give the appropriate advance identification needed for turning into the entrance drives. For this reason, location of site elements such as parked cars, eye-level flowering trees, or groups of evergreen plantings that might obscure views in these areas should be avoided. In addition, groups of existing trees should be selectively pruned to permit these views.

**(5) Views** Location and orientation of the building should consider the utilization of any existing pleasant off-site views and the avoidance and/or screening of any objectional off-site views. Refer, in general, to TM 5-803-3 and DOD Construction Criteria Manual 4270.1-M.

**(6) Desirable Site Elements** Site planning should also consider the preservation of any natural amenities of the existing site. Refer to DOD Construction Criteria Manual 4270.1-M and to TM 5-803-1, "Preservation of Existing Vegetation." The relationship and ultimate effect of proposed grading to the

existing contours of the site should be studied, and plans should be developed in conformance with guidelines and objectives contained in the TM 5-803-3, DOD Construction Criteria Manual 4270.1-M, and TM 5-803-1. In addition, the design of site grading requirements, which are generally indicated as part of the project site plan should be developed to accomplish proper storm drainage as outlined in above referenced documents.

**(7) Undesirable Elements** Due to their strictly utilitarian purpose, site plan elements, such as transformers, electric poles, vaults and meters, are rarely considered desirable additions to the aesthetic development of sites for important community service facilities. Though essential to the fundamental operations of the building and its systems, such elements must be located carefully to avoid detracting from the otherwise pleasant character of the site development. Location considerations should conform to guidelines contained in DOD Construction Criteria Manual 4270.1-M and TM 5-803-3.

**(8) Micro-Climate** In establishing proper building/site relationships, special consideration should be given to micro-climatic conditions; especially variances in anticipated directions or intensities of prevailing winds caused by the diffusing effect of existing trees or the intensifying effect of wind currents caused by adjacent land forms. Site climatic conditions should not be identified solely on the basis of generalized regional patterns but should be verified by inspection of actual on-site features.

### **c. VEHICULAR AND PEDESTRIAN SYSTEMS**

Vehicular and pedestrian systems must be established for site access, circulation and parking. Safe and convenient systems should distinguish between the various groups and individuals who use this facility. Design of pedestrian and vehicular systems should conform to the guidelines contained in DOD Construction Criteria Manual 4270.1-M and TM 5-803-3. Particular emphasis should be placed on providing for the accessibility, safety and convenience of the physically handicapped. Where possible, the desirable layout of roads, parking and walkways should avoid locations directly over underground utilities. Geometric and permanent design of roadways, driveways, parking spaces and walks should conform to provisions contained in TM 5-822-3, and DOD Construction Criteria Manual 4270.1-M.

**d. PHYSICAL AND VISUAL ACCESS** Due to the public, private and confidential nature of MP operations, physical and visual separation of the access to the facility must be achieved in order to reinforce the distinction between the various types of visitors to an MP facility. The ability to express this separation clearly and logically

must be the basis of determining the location of roads, drives, parking, and walks and entrances. Figure 3-2 indicates some of the planning and design considerations essential to the provision of adequate physical and visual access. The principal characteristics and requirements of physical and visual access are:

**(1) Public Access** Since accessibility to certain functional activities and the separation and control of visitor circulation can become confused on a first visit, directional signage and the design of the physical landscape should be used to assure proper public access. Provisions for the control of the public's physical and visual access should be made whether it is by vehicle or as a pedestrian. Consider scale and aesthetics in the choice of paved areas and pedestrian facilities, pedestrian scale lighting, signage and decorative planting in public access areas.

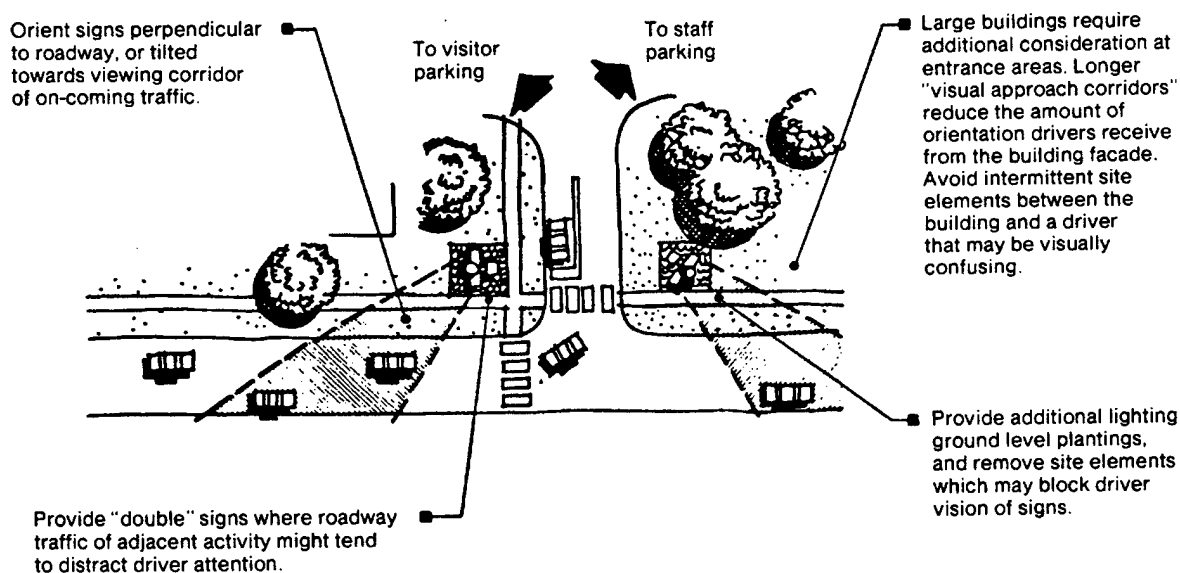
**(2) Private Access** Private access is used primarily by those who have familiarity with this facility: unit commanders, law enforcement personnel, civilian liaison and personnel from CID and other support elements. Therefore, signs and identification should be designed to indicate to the casual visitor that this is not the approach to his entrance rather than to advertise that this is the area of critical operations. The necessity of providing security during suspect/prisoner transferral and for nighttime shift parking or the inspection of patrol vehicles dictates the need for enclosure. Ideally, this enclosure should not resemble the institutional image of barbed wire and chain link fencing. Instead, consider a wall or screen made of the materials of the building, providing visual

separation from the public entrance and presenting a less hostile, more pleasant character as well. Design considerations for suspect access points should reflect the fact that prisoners remain only suspects at this point and may ultimately be found innocent. However, to maintain security and to avoid congestion in critical operations areas, other staff using this facility should not be required to pass through this area. Monitoring by CCTV and use of electronic sensors should be considered for surveillance of private access and critical operations areas.

**(3) Confidential Access** Access for confidential staff involves a less intensive physical character than that required for private access. Public access expresses the important community service aspect of the military police program. Private access stresses the day-to-day aspect of police operations and takes on the more routine function of handling the daily traffic of law enforcement personnel. Because of their differences, the public and private access areas, including the suspect/prisoner entrance, should be visually separated from the confidential access area required by military police investigators. There is a special need for this separation, especially between the confidential access area and the public entrance. This is due to the somewhat confidential nature of work by certain investigations personnel.

**e. DESIGNING FOR THE HANDICAPPED** The handicapped are classified as a special category of user. Careful consideration, therefore, must be given to their unique physical needs. Handicapped users may include both manually and visually as well as audially impaired.

Figure 3-2 Visual Approach Considerations

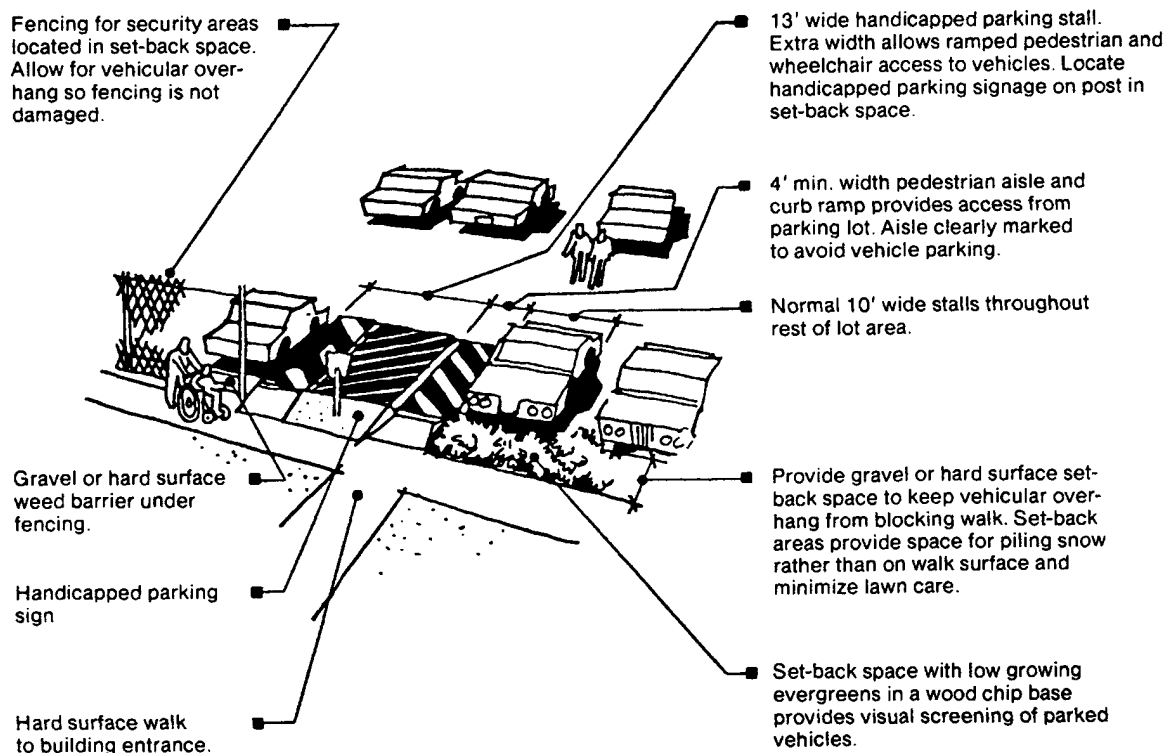


Since they also may be involved in both staff and visitor related military police activities, special attention must be given to making the full range of required building and site facilities reasonably accessible to, and fully usable by, the physically handicapped. This need for access to and use of military police facilities will be an important factor in the initial planning and design of building and site elements. Actual requirements for the handicapped that result in the provision of special features in certain site elements will depend on the level of severity of impairment that is used as a design criterion, i.e., totally blind people may need site signage that includes braille lettering, special hardware may be needed for use by amputees, access for wheelchair users can be improved by providing automatic door opening devices, etc. General design standards for the handicapped should be considered in the design of such site elements as paved surfaces, natural surfaces, curbs, drainage and utility vault grates, crosswalks for driveways and parking areas, outside ramps, stairs, handrails, railings, seating areas, drop-off and pick-up zones, parking spaces, plantings, lighting, signage, telephones and site furniture (trash receptacles, benches, sign posts, fencing, utility poles, etc.). For detailed guidance, refer to DOD Construction Criteria Manual 4270.1-M and to ER 1110-1-102 and EM 1110-1-103 which contain generally applicable standards.

(1) **Public Access and Site Circulation** Vehicle registration, public information, on-duty police desk assistance and other military police services as well as certain operations and administrative support activities generally involve interaction with the public. Typically, military police activities in this category are directly accessible from or adjacent to the main visitor entrance. Since one of the types of visitors to a military police facility may be the handicapped, the design of pedestrian and vehicular access and site circulation features should not impose a barrier to their use of the facility. Signage must be large enough to be easily read by handicapped people with visual impairments. Curbs, walkways, parking spaces, ramps, stairs, entrance approaches and doorways must be designed with careful consideration for the physical needs and dimensional requirements of handicapped people with manual impairments who might use mechanical aids (wheelchair, cane, crutch, etc.). The design of site elements unique to the needs of the handicapped, such as gently sloped ramps, oversized doorways, etc., must conform to the guidelines and criteria contained in the above referenced documents.

(2) **General Parking** Figure 3-3 illustrates the need to provide specially marked and reserved parking stalls designed to accommodate the handicapped.

Figure 3-3 Handicapped Parking Requirements



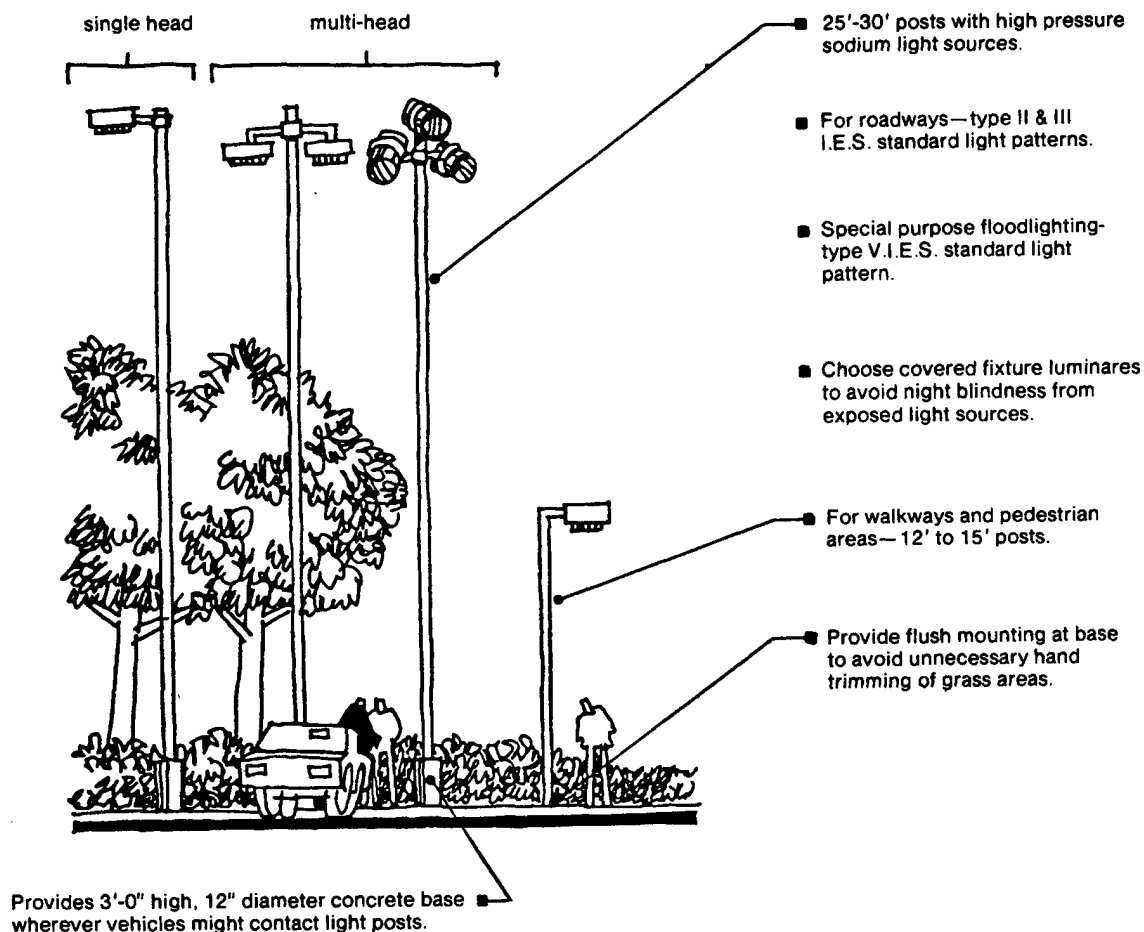
These stalls should be located in visitor and staff parking areas nearest the routine trip destination of visitor, staff and military police personnel. This normally will be directly opposite or adjacent to the principal visitor or staff entrance, but no more than 100 feet from at least one building entrance usable by the physically handicapped. Parking space designated for exclusive use by physically handicapped people must be of sufficient width (at least 13 feet wide) to provide for wheelchair access to both sides of a vehicle and to open doors fully.

**(3) Use of Facilities by Handicapped Staff** Site design features and unique provisions for either temporarily or permanently handicapped military police personnel or staff (usually civilians) may go beyond those prescribed by the above referenced documents. The identification of such requirements will be determined at the local level on a project-by-project basis, and will be in accordance with currently applicable engineering and design standards. Such requirements generally involve special designs for

staff entrances, the need for automatic door openers, ramps, stairs, or special hardware or equipment, and the layout of outside operations areas which might need special provisions to accommodate the handicapped.

**f. LIGHTING** Lighting for site areas should refer, in general, to DOD Construction Criteria Manual 4270.1-M and TM 5-803-3. More specifically, exterior site lighting can be helpful in conveying an inviting atmosphere desirable at public parking and entrances. Proper selections of pedestrian-scaled fixtures and poles should coincide with major walkway areas. Choice of fixtures and poles should reflect the materials, shapes, and colors used in the building. Choose shapes and materials which are durable and whose sturdiness of construction is appropriate for the normal abuse and wear in operational areas such as this. Poles should be located where they will not interfere with pedestrian or vehicular movements. Lighting for various site areas should conform to Illumination Engineers Society's recommended footcandle levels. Selection of security

Figure 3-4 Site Lighting Considerations



lighting should be in accordance with FM 19-30. Refer to Figure 3-4 for guidance.

**g. SERVICE** The site plan should incorporate adequate space for access by service vehicles, such as fire trucks, ambulances, and trash trucks. Refer to DOD Construction Criteria Manual 4270.1-M. In addition, conform to requirements in TM 5-803-3 and TM 5-812-1.

**h. LANDSCAPE PLANTING** Development for military police facilities should include new plantings of trees and shrubs, the establishment of lawn areas, and, where possible, the preservation of existing vegetation, all as required in DOD Construction Criteria Manual 4270.1-M, as well as TM 5-803-3. When designing the planting, consider the selection of plant materials which are readily available, easily maintained, compatible with the surrounding environment, and whose ultimate growth characteristics are appropriate to the use for which they are intended. Layout application selection

should conform to guidelines expressed in DOD Construction Criteria Manual 4270.1-M and T 5-803-1. Considerations for choices of appropriate grass types should not exceed TM 5-830-2. Refer to Figure 3-5 for guidance.

**(1) Uses** Trees and shrub plantings should be incorporated into the plan of site development to effectively modify conditions of temperature, glare, wind, dust, smoke and noise. Refer to more specific guidelines contained in TM 5-830-1, as well as DOD Construction Criteria Manual 4270.1-M, and as illustrated in Figure 3 on Page 6 of TM 5-803-3.

**(2) Parking Area** When designing the parking area, consider buffer screening, planting medians, and substantial islands of vegetation as appropriate to screen and break the visual impact of long-paved areas. Rather than hide the parking, the purpose of these elements is to provide an aesthetic balance between the paving and the cars. A desirable ratio is for large-growing trees to be spaced approximately fifty feet on center, as recommended in TM 5-830-a.

Figure 3-5 Landscape Planting Considerations

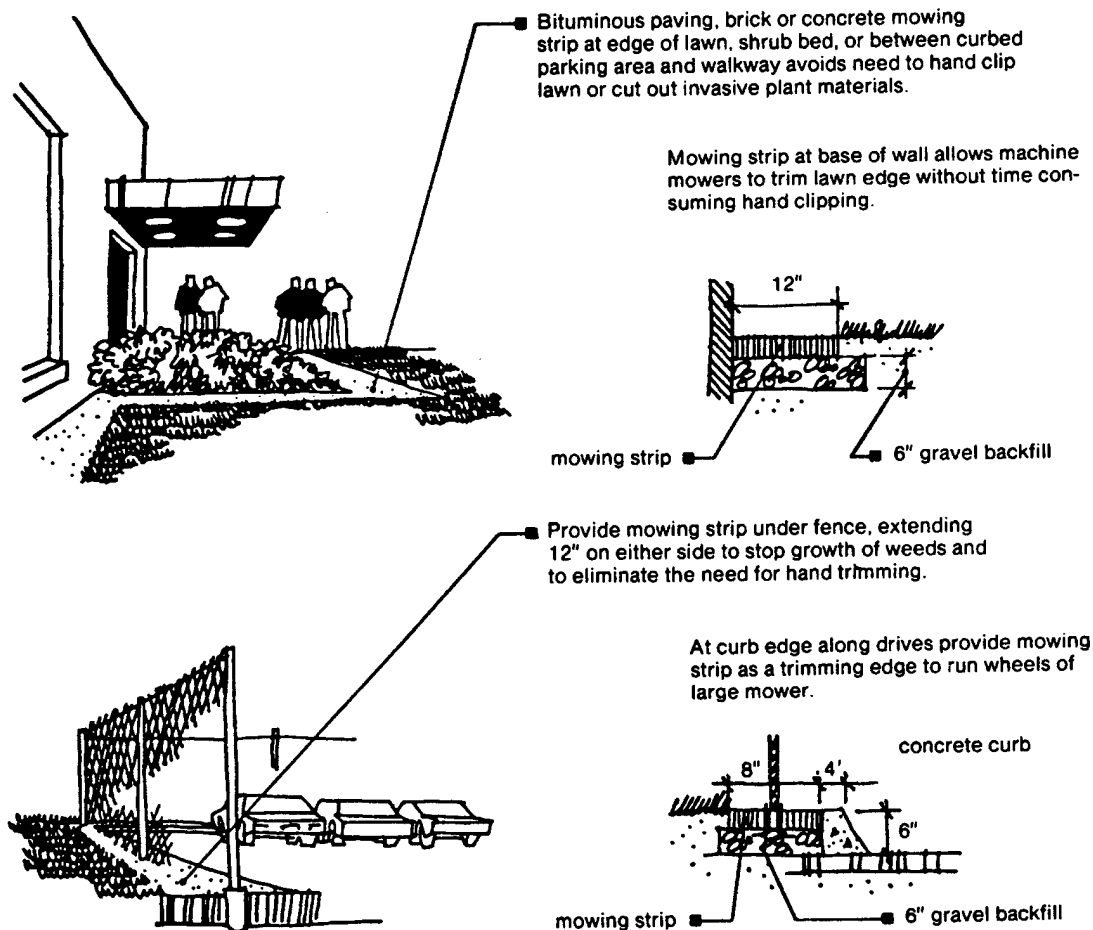
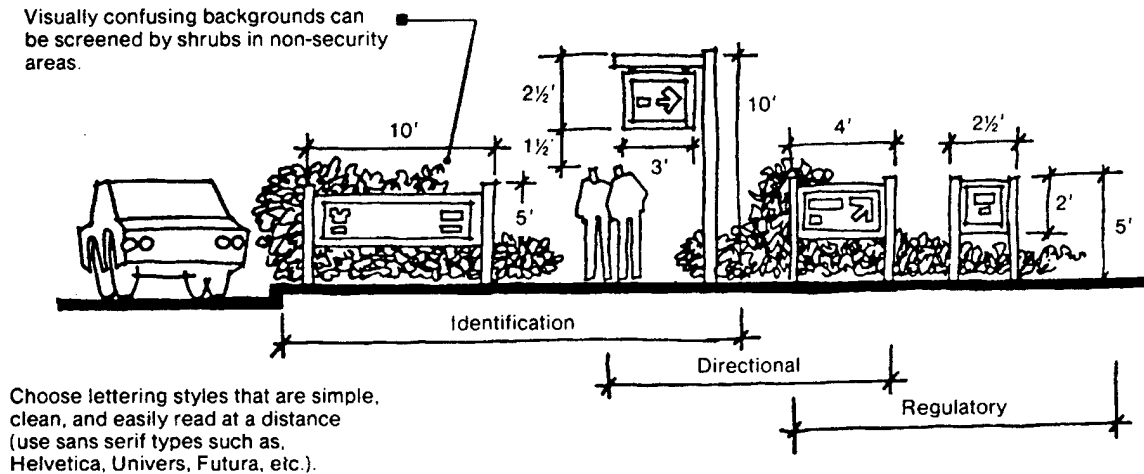


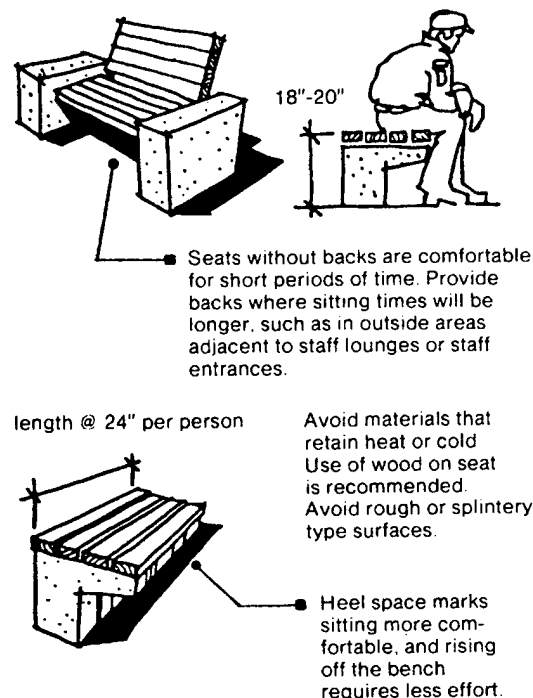
Figure 3-6 Site Signage Considerations



i. **SIGNAGE** The function of site signs at this facility is basically threefold: (1) to give IDENTIFICATION of the facility to those on adjacent streets; (2) to give DIRECTIONS to the various groups coming here; (3) to indicate the REGULATIONS of traffic vehicle movements on the site. Signs which are clear, easily read, and which present information with straight-forward simplicity are the most appropriate solutions for these functions. Choose lettering styles such as Helvetica, Univers, or Optima, which are read easily from a distance. Numbers and letters should be applied against a contrasting background for added readability. Materials and colors for signs should be matching or similar to those materials used in the building to present an image or coordinated development. Location of signs should be appropriate for the message they convey and should not be located where they might become an obstacle for pedestrians. Provide adequate lighting of signs for areas used at night.

j. **SITE FURNITURE** Design of other items of site furniture, such as benches, bollards handrails, flagpoles, trash receptacles, information or temporary outdoor structures, should be coordinated to represent a harmonious group of elements, with colors, shapes and general scale designed in sympathy with materials and forms used in the building. Elements of site furniture should be given a definite location and should not interfere with or obstruct general operational traffic patterns, pedestrian or vehicular circulation, and the general appearance of the site. It is recommended that, in addition to the required waste disposal equipment, moveable equipment such as trash receptacles be appropriately placed. The type selected should be aesthetically pleasing and should blend in with the landscaped setting. Refer to Figure 3-7 for guidance.

Figure 3-7 Site Furniture Considerations





**k. SITE UTILITY SUPPORT** Site utility support requirements for a military police facility may include such mechanical or service needs as the extension to the building of new or additional steam or hot water, electric power, water, and storm and sanitary sewer services wherever they are not already provided. Refer to more specific guidelines as contained in DOD 4270.1-M. Individual requirements for site utility support depend on the following needs:

**(1) Heat** If the installation is served by a central boiler plant, then the size of the plant and the distribution mains in the vicinity of the proposed site of the building should be checked for adequate spare capacity. In checking for spare capacity, the actual demand of the existing and new buildings should be estimated as accurately as possible, as very often the actual demand is as low as 65% of the design heat load. If spare capacity is not available in the boiler plant or in the distribution system, then modifications or additions to either the boiler plant or the distribution system should be considered.

**(2) Electrical** A survey of the appropriate portion of the existing system serving the installation will be made by local technical (Installation Facility Engineer) personnel to insure that adequate capacity for the proposed construction will be provided.

**(3) Water** The water distribution system should be checked for spare capacity to meet the requirements of the proposed building, including fire protection and whatever modifications must be made to the distribution system to serve the new building. Refer to technical manual TM 5-813-5 for more specific guidelines.

**(4) Storm Drainage System** The size and elevation of the storm sewers in the vicinity of the proposed location of the buildings should be checked. Proposed site grades and site drainage requirements should be coordinated with the existing storm drainage system to minimize the storm drainage work. If the existing storm drainage system is inadequate or non-existing, then grading plans should be developed to provide a surface drainage system to natural water courses.

**(5) Sanitary Drainage System** The size of the existing sanitary sewers should be checked if adequate to serve the proposed building. Extensions of, or modifications to, the existing system should be done in accordance with the guidelines in technical manual TM-5-814-1.

**(6) Location** Underground utility lines should not normally be located under roads, sidewalks, parking lots, paved terraces or other paved areas or areas of anticipated expansion, and should be located at the minimum depth necessary, usually not less than three feet.

### 3-3 Building Design Considerations

**a. GENERAL** There are many building design factors that determine architectural character and lead to the development of design criteria for military police facilities. The guidance provided in the following paragraphs outlines the principal design factors that influence the design of military police buildings. Table 3-2 provides a checklist of building design considerations.

Table 3-2: Building Design Considerations

- (1) General**
  - (a) Basic Requirements
  - (b) Functional Characteristics
  - (c) Special Considerations
- (2) Architectural Character**
  - (a) Basic Requirement
  - (b) Aesthetic Characteristics
  - (c) Design Elements
- (3) Physical Expression**
  - (a) Operational Spaces
  - (b) Non-Operational Spaces
- (4) Utility**
- (5) Local Considerations**
- (6) Physically Handicapped**
- (7) Construction**
- (8) Structural Design**
  - (a) Structural Systems
  - (b) System Selection
  - (c) Special Conditions
- (9) Structural Module**
- (10) Building System Flexibility**

**(1) Basic Requirements** In establishing design criteria, a clear distinction must always be made between the functional requirements of project environments such as locational and climatic factors and those fundamentally creative design characteristics that tend to enhance overall appearance of physical facilities. This guidance is particularly important to the development of an appropriate architectural character and aesthetic for law enforcement operations and facilities.

**(2) Functional Characteristics** In terms of conveying an appropriate architectural character, the design of military police facilities should reflect the overall functional characteristics of military police operations. Therefore, mission-peculiar operational requirements need special architectural attention. Existing general design criteria should be evaluated for appropriate application to the special conditions functions relating to operational activities. Care should be taken in the application of generalized design criteria to individual functional requirements, such as in the design of on-duty operations, facilities, special spaces and building components.

**(3) Special Considerations** Special design and construction criteria related to critical operations areas must be established prior to concept development in order to provide a firm basis for the accomplishment of a high level of quality in the architecture of military police facilities.

**b. ARCHITECTURAL CHARACTER** Emphasis should be placed on the fundamental importance of maintaining a consistent level of design quality and aesthetics in the architectural character of individual military police facilities. Recognizing this, the development of aesthetic concepts must clearly reflect both the generic and uniform functional requirements of individual military police activities.

**(1) Basic Requirement** The basic requirement that should govern the development of architectural character for individual projects is that building design should be used to visually convey a purposeful image for the law enforcement and community service functions housed by military police facilities.

**(2) Aesthetic Characteristics** The aesthetic characteristics of military police facilities should primarily reflect the seriousness and responsibility of law enforcement activities. In most cases, the public approach to the facility should convey a positive first impression, be inviting and not imposing in scale, and, without being overly somber, indicate that a military police facility is a place of serious work and genuine community assistance. Contrived or artificial details should be avoided. The use of straight-forward materials, a sympathetic relationship of form and structure to human scale, and the sensitive placement of strong and vibrant colors as an accent to a basically reserved color scheme should provide appropriate opportunities for individual expressions of the basic spirit and tenor of an important community activity. Great care and sensitivity must always be exercised to avoid whimsy in aesthetic expression. For found space projects, the aesthetics of existing barracks, mess halls, clubs, warehouses or other similar types of military service facilities will not, in terms of their present outward appearances, befitting for the military police. Some improvement will be necessary.

**(3) Unification of Design Elements** Unification of design elements is a basic aesthetic requirement that can be accomplished by setting an underlying physical, psychological and social tone in the design of the facility. Aesthetic concepts can be carried through in architectural forms and details that reflect a concern for human sensitivities and human scale. These are two primary concerns in unifying the aesthetics of a building and should be placed on an equal level with functional requirements as a determinant of the quality and form of architectural design. The overall sense of unity and scale in physical facilities should relate directly to the human

perception of the functions that they either contain or support. For law enforcement facilities that depend on the maintenance of a positive public image, this is a particularly important consideration. Aesthetics must, therefore, influence functional planning and design decisions that establish the appropriate treatment of various site and building elements.

**c. PHYSICAL EXPRESSION** Military police facilities, for the most part, contain activities that are generally non-distinctive in their physical form. With the exception of the MP Desk area, which is usually an interior space, these spaces have the same basic floor-to-ceiling dimensions and the same roof support and basic enclosure requirement. However, individual operational activities and non-operational spaces may have special functional requirements that can be expressed architecturally. The need for natural light, outside awareness, privacy, security, etc. should be the basis for physical expression. Other factors, such as local architectural traditions, the need to achieve aesthetic unity, and the need to create as barrier-free an environment as possible for the physically handicapped, should be considered in developing an appropriate physical expression for military police facilities.

**(1) Operational Spaces** Although On-Duty operational areas have space requirements which are essentially function-oriented, there may be unique opportunities for the physical expression of basic requirements. For example, activities such as those at or near the MP Desk: communications, briefing, prisoner-processing, or specialized interview or report-writing rooms, might be manned or in some way occupied on a 24-hour basis. This staffing pattern might necessitate the need for outside awareness, which could be satisfied by limiting fenestration to skylights. This would provide a more perfectly controlled environment and would also provide a more secure area. If critical or confidential operational activities are required. Other physical elements might be used to express functional requirements in a way that would give relief from what might otherwise become an unimpressive exterior wall treatment. Similar function-based opportunities for physical expression exist for other building forms, such as entrances or roof lines

**(2) Non-Operational Spaces** Non-operational spaces, that is, building elements used to achieve the proper organization or physical and functional requirements, could be expressed as distinct building forms. Entrances, corridors, lobbies, vertical circulation, mechanical cores and other building elements can also give clarity and identity to the external expression of internal function, provide interest by varying the volume and character of enclosures and the play of light and shadow, and can be used to emphasize the main points of access. An expression of functional requirements contributes to aesthetic

and functional clarity, the visual comprehension of activities, and the general approachability of military police facilities. The use of physical expression in non-operational spaces can relieve the sense of rigidity that might otherwise be conveyed by more passive approaches to design.

**d. UTILITY** Utility in the design of exterior building systems and the selection of sub-system materials should be based on such factors as suitability, economy of first cost and life cycle costs, and energy and natural resource conservation. Window expanses should be avoided where operational security is a significant factor. Extensive glazing should also be avoided in unusually sunny climates to prevent undue solar heat gain, and in frigid areas to prevent heat loss, both of which result in increased operating costs. The durability of basic building materials for permanent construction is paramount. Nothing could be more destructive to the image of efficiency and effectiveness required by military police activities than to have a new building that has a design life of over thirty years look dated in ten. High standards of utility, simplicity and directness of form and materials are recommended as the most effective way to avoid the pitfalls of obsolescent design. This approach does not imply simple-mindedness; on the contrary, it requires the greatest skill on the part of the design team, from pre-planning decisions through construction supervision to building occupancy. The long-term operations and maintenance factors of building systems and materials must be carefully considered.

**e. LOCAL CONSIDERATIONS** Local architectural traditions and indigenous materials will influence, to a certain extent, the aesthetic decisions related to military police facilities. They should not, however, be the controlling consideration. The design should not inappropriately reflect historic patterns of aesthetic expression. Respect for neighboring facilities of historic importance should be maintained by the use of sympathetic texture, color, and, where possible, scale. Climatic conditions will also influence the final design and will have their greatest effect on specific building forms and on the characteristics of specific building materials.

**f. PHYSICALLY HANDICAPPED** The design of facilities for military police operations and administrative support activities must contain provisions to make such facilities accessible to and usable by the physically handicapped. This requirement will be accomplished in accordance with the detailed guidance contained in DOD Construction Criteria Manual 4270.1-M, EM 1110-1-103 and ER 1110-1-102 as well as specific criteria referred to in this guide.

**g. CONSTRUCTION** Reference should be made to DOD Construction Criteria Manual 4270.1-M, and OCE instructions titled "Life Cycle Costing, Economic Studies in Connection with the Design of Military Construction Projects," dated 3 May 1971, revisions dated 27 Sep-

tember 1971, 3 March 1972, 12 July 1972, 1 October 1973 and 5 February 1974. A specific fire protection requirement of all projects shall be that on-duty operations areas be so constructed that a two-hour fire rating can be obtained. Also, sites where a deficit in PF 100 fallout shelter space exists under the Army Survival Measures Plan, selected areas of the structure should be designed for dual use as fallout shelters, with an estimated cost to provide the shelter not exceeding one percent of the structure's cost. For more detailed requirements on fallout shelters see TM 5-800-1 and current change thereto. Fire protection ratings as defined in DOD Construction Criteria Manual 4270.1-M must be considered in planning all types of construction.

**h. STRUCTURAL DESIGN** Structural design load and criteria should be in accordance with DOD Construction Criteria Manual 4270.1-M, TM 5-809-1 thru 6, 8, 9, and 11 as applicable. Seismic design should be in accordance with TM 5-809-10. The following factors are the principal considerations in identifying a structural design for military police facilities which are appropriate to local considerations.

**(1) Structural Systems** Although variations exist in each, there are two basic structural systems that are appropriate for military police facilities:

**(a) Steel Frame** This system offers a wide range of sub-system components, which are mass produced and shipped to the construction site for assembly, e.g., (floor and roof deck systems, open-web bar joists, and, to satisfy column-free space requirements, pre-engineered and pre-fabricated space frames.

**(b) Reinforced Concrete** This system includes poured-in-place concrete and plant pre-cast and prestressed concrete structural components. Recent developments in form work, placement, and in higher strength reinforcing steel and concrete have reduced the cost of reinforced concrete structural systems. It is unlikely that concrete will prove economically feasible for single-story buildings except for those areas where two-hour fire rating is mandatory.

**(2) Structural System Selection** The selection of an appropriate structural system must be based on comparative cost studies that determine the most economical system for the characteristics of a particular project environment. Special conditions such as heavier-than-normal floor live loads or seismic design requirements will have an impact on system selection.

**(3) Special Conditions** When special structural conditions are imposed by site constraints that present requirements for a facility of more than two stories including a basement, a reinforced concrete structural system may be indicated by comparative cost studies. Consideration should be given to a concrete structural system for 1 and 2 stories using

Grade 60 reinforcing bars to reduce field labor costs and concrete in excess of 5,000 lbs. per square inch where the functional requirements for change are such that a steel frame system would be overly constrained by new concentrations of personnel, equipment or functional activities. Physical flexibility need not be inhibited by limitations on the location of essential operations imposed by the initial design of lightweight steel frame systems since increased loads or changes in concentration are more appropriately and economically treated as "built-in" conditions in the design of reinforced concrete.

**i. STRUCTURAL MODULE** The structural module, or grid, should be a multiple of the basic planning grid. Comparative cost studies should be made of the most apparent competitive systems, recognizing that the larger economical bay sizes provide greater flexibility for functional layout. The studies must take into account the mechanical and electrical systems and their cost implications presented by the varying structural systems. For example, the increased depth of main girders will increase the floor-to-floor heights to allow for "straight-run" duct work, which is the most eco-

nomical method of air distribution. The increase of floor-to-floor heights correspondingly increases building costs due to expanded exterior materials.

**j. BUILDING SYSTEM FLEXIBILITY** The need for building system flexibility will be a principal determinate of building form and structure, and will govern the specification of building sub-systems, such as floors, walls, partitions, and ceilings. For example, to accommodate power and communications requirements economically, particularly where the flexibility in arrangements of large open office areas is essential, consideration must be given to the provision of a structural cellular floor deck, which provides necessary duct space in lieu of a more expensive underfloor duct system.

## 3-4

### Interior Design Considerations

**a. GENERAL** Interior design features shall be developed in conjunction with the architectural design and coordinated with future planning and design requirements. All features of the building relative to the interior design, whether they are furnished and installed as part

Table 3-3: Interior Design Considerations

Items	Concerns
(1) General	Overall Scheme; Interior Design; Architectural Design; Future Planning and Design;
(a) Cost Estimates	Functional Effectiveness
(b) Mandatory Sources	Equipment; Partitions; Lighting; Work Surfaces; Floors, Walls, Ceilings, Window Treatments; Color, Graphics; Planting
(c) Presentation Format	Accuracy, Currency; Professional Design Guidance
(2) Partitions	Clarity; Organization; Coordination
(a) Permanent	
Fixed	Need For: Fixed Location, Minimal Change, Stability of Requirements; Fire-Rated Secure Areas
Semi-Fixed	Need For: Moderate Change, Relatively Stable, Acoustic and Visual Separation
Demountable	Need For: Maximum Anticipated Change, Minimal Separation; Minimize Operation and Maintenance Costs
Space Dividers	Space Definition; Privacy; Acoustical Separation; Task Lighting
(b) Non-Permanent	
Modular/Movable	Functional Requirements; Frequency of Change; Durability; Lighting and Electrical Outlets
Temporary	Separation of Work Areas; Flexibility; Acoustic Privacy; Space Organization
(3) Ceilings	Physical, Functional, Environmental Requirements; Economy; Effectiveness; Maintenance; Lighting; Building Module
(a) Standard	Building Module; Planning Module
(b) Special	Task Lighting; Acoustic Isolation; Building Module
(4) Floor Finishes	
(a) Resilient Tile	Economy; Utility
(b) Carpet	Acoustics; Anti-Static; Habitability; Functional Effectiveness
(c) Ceramic Tile	Toilet Rooms; Detention Facilities; Shower and Locker Rooms
(5) Material-Color Selection	Individual Requirements; Overall Design Concept
(a) General	Maintenance; Anticipated Change; Life Cycle Cost; Security, Safety; Acoustics; Appropriateness to Functional Activity
(b) Color	Physical and Psychological Effectiveness; Functional Requirements; Image and Operational Suitability
(c) Finish Materials	Design Coordination; Image; Architectural Character; Aesthetics; Durability; Installation and Maintenance Costs
(6) Signage and Graphics	Design Coordination; Economy; Ease of Procurement, Installation, Standardization; Maintenance; Flexibility
(a) Message Format	Comprehension; Suitability; Lighting; Changeability; Maintenance
(b) Facility Identifiers	Location; Building Number, Principal Functions, Activity Hours; Restricted Areas; General Directions
(c) Pictographs	Simplicity; Economy; Multi-Lingual Communication
(d) Space Identifiers	Words, Numbers Required
(e) Directional Signs	Circulation Control; Functional Integrity; Restricted Access; Privacy; Confidentiality; Security
(f) Display Boards	Operations Control; Patrol Coordination; Dispatch of Military Police Services and Assistance
(g) Notice Boards	Information Control; Accommodate Change in Information
(7) Unique Requirements	
(a) CCTV Monitoring	
(b) Security Systems	
(c) MP Desk Equipment	
(d) Built-In Furniture	MP Desk Area; Prisoner-Processing and Detention Area; Operations Office
(e) Detention Facilities	

of the construction contract or later provided by the using service, will be developed as an overall scheme. Table 3-3 provides a checklist of interior design items and concerns which should be considered in identifying and evaluating interior design requirements. Generally, form, color, the material of interior furnishings and finishes, space partitions, graphic design and signage will be introduced as part of the overall design to give visual distinction to activities and to facilitate functional effectiveness. Project-specific requirements for interior design shall be coordinated with the using service and the installation and shall reflect a consideration of:

**(1) Cost Estimates** When estimating the cost of interior design requirements, all items of equipment and furnishings which are permanently built-in or attached to the structure, as defined in AR 415-17, are normally considered part of the construction contract. Other items which are loose, portable or can be detached from the structure without tools, are generally provided by the using service under separate contract. Interior building surfaces, paint colors, floor coverings, window coverings as required, graphics and signage will be specified as part of the construction contract in coordination with the overall design. Furniture shall be identified for procurement by others.

**(2) Mandatory Sources** Sources for selection and procurement of furnishings are listed in the GSA periodical listing of National and Regional Federal Supply Schedules, The Federal Prison Industries Schedule of Products and the general GSA Supply Catalog. Procurement by the using service from these sources is mandatory, provided that the items available meet requirements. For items not listed in the mandatory sources above but which are part of the overall design scheme, appropriate guidance shall be provided by the designer for procurement by the using service. Mandatory source schedules and catalogs must be carefully reviewed to determine the accuracy and currency of price and material specification data as they may change frequently to reflect cost changes and additions or deletions of contract items. New items will be found under new item introductory schedules (NIIS) in the periodical listing mentioned above.

**(3) Format Requirements** Drawings and schedules concerning items not included in the construction must be provided in a format that can be readily issued to and be understood by installation personnel who are responsible for procurement, and personnel who are responsible for component placement and utilization after delivery. Display sheets consisting of placement plans, catalog illustrations, material/color samples and perspective sketches of typical spaces, together with procurement lists, source data, and cost estimates will be developed as appropriate to accomplish this objective. Direct coordination between these drawings and schedules, and the finish

schedules under the construction contract must not only be evident, but clearly organized to allow direct design evaluation.

**b. PARTITIONS** Spaces are typically defined by the use of partitions. Individual functions may be further defined and specific requirements related to a particular activity satisfied by enclosures which meet the specified planning and design criteria. The following guidance will govern the specification and use of partitions in military police facilities.

**(1) Permanent Partition Types** The following partition systems are used in permanent construction:

*(a) Fixed* These are usually of masonry construction and are used in areas where change is not anticipated, such as stairways, mechanical and toilet rooms, the lobby/reception areas, on-duty desk areas, secure records storage, evidence and property storage, operational equipment, arms and ammunition storage, and for other permanent or fire-rated areas.

*(b) Semi-fixed* These are rated or non-rated partitions, used where little change is anticipated during the life of the facility. The most common type of construction and the most economical is gypsum board on steel stud. Partitions penetrate the ceiling and extend to the underside of the structure above. Additional layers of gypsum board and acoustical material between the studs will achieve the desired sound attenuation and/or fire rating.

*(c) Demountable* This is a type of partition usually of gypsum board and steel stud construction and similar to semi-fixed but extending only to the underside of ceilings. It is used where anticipated change is measured in years rather than in months. These partitions can be demounted and the studs, floor and ceiling channels, doors, frames and hardware re-used as salvageable components.

*(d) Space Dividers* These are free-standing partitions, used to define and acoustically separate but not physically isolate or completely enclose individual functional activity areas. Where a permanent functional requirement for such dividers is essential to effective operations, this requirement should be included in the permanent construction contract. For example, in the provision of medium privacy and acoustic isolation in open administrative or operational areas. Also, where maximum flexibility is required or a change in operational or organizational requirements is probable, a functional requirement of temporary space dividers may be included in the permanent construction contract. Refer to criteria governing the use of acoustically treated space dividers contained in mandatory sources documents.

**(2) Non-Permanent Partition Types** The following are typical non-permanent partition systems:

*(a) Modular/Relocatable* These are prefabricated modular type wall components designed for individ-

ual activities areas. Layouts of this type of partition system are usually based on the planning module. Modular/Relocatable partitions can be field assembled and normally consist of ceiling height, door height, or low bank screen modules. This type of partition should be used only for individual functional activities where frequent change is anticipated and the need for flexibility can be justified; this is usually in MP operations areas.

(6) *Temporary Space Dividers* Low, free-standing cubical-type units used to define individual work areas. This type of partition system is often used on open office planning where individual units are frequently acoustically treated to lower noise levels. In most instances, this type of partition system is properly included as part of the furniture to be procured by the using service rather than part of the permanent construction contract. Specific requirements, such as space organization principles – open office or landscape office planning – or the special needs of individual work stations for flexibility, acoustic privacy, etc., may indicate that space dividers are essential to operational and mission effectiveness and thus they may be considered as permanent construction items.

**c. CEILINGS** The interior design requirements for ceilings and ceiling systems depend on the physical functional and environmental requirements of individual activity areas. The choices of color, material and surface finish, as well as system components, should assure maximum economy and functional effectiveness. The choice of an appropriate ceiling system must reflect a consideration for spatial and environmental services flexibility and long-term operational and maintenance requirements. Suspended ceiling systems require either the use of recessed lighting fixtures which are integrated into the design of the ceiling, or independent lighting systems. Requirements for the design of ceilings often depend on concepts for providing direct and indirect light to various work surfaces and work areas. Where individual tasks are to be lighted by separate lighting systems, which will be either integrated with or independent of work station furniture, and where open office areas constitute the majority of space requirements, the type of ceiling selected will not affect the design of interior lighting systems. For conventional ceiling-oriented lighting systems, the type of ceiling selected will affect the decision as to the exact fixture selected. If a standard ceiling is used, the lighting fixture should be planned on a module of the building for ease in installation. The principal types of ceilings used in military police facilities are:

(1) **Standard** Suspended lay-in acoustical tile with exposed grid is the standard requirement. The standard grid of 2" by 4" is the most economical system. It allows for installation of standard recesses, 2" x 4" lighting fixtures and easy installation of ceiling dif-

fusers and grills for HVAC, and provides access to services above. Unless special considerations dictate otherwise, this system would be the logical choice as a facility standard for ceilings.

(2) **Special A** solid wire-mesh reinforced ceiling is required for arms storage, mail/message center, detention areas, operational equipment storage and for evidence and property storage areas.

**d. FLOOR FINISHES** The following typical floor treatments should be considered in the design of individual military police facilities.

(1) **Resilient Tile** Consideration should be given to the use of vinyl asbestos resilient tile as a primary floor finish throughout the facility for the reasons of economy and utility.

(2) **Carpet** This floor finish is to be used in special areas where functionally deemed appropriate, such as in large open office areas where additional acoustical treatment is a critical requirement. Administrative support areas (MIS, WPC, etc.) require anti-static carpet.

(3) **Ceramic Tile** To be used primarily in toilet rooms. Quarry tile or similar hard finish tile should be used in detention facilities to enhance the humane quality of space that may require 24-hour occupancy.

**e. MATERIAL-COLOR SELECTION** The material and color of interior design elements must reflect individual requirements and be coordinated with the overall design concept for activity areas and the entire building. In selecting proper materials and colors, consider the following.

(1) **General** Interior finishes shall be appropriate for the designed function of the building and spaces. Selection of materials should be based on low maintenance qualities considering the anticipated use, the impact on life cycle cost and the requirements for security as well as health, fire, and other safety requirements. Decisions concerning the use of carpets as an interior finish other than for floors will be coordinated with the using service and should be based on distinct functional advantages, such as its acoustic, safety and maintenance properties.

(2) **Color** Use of color in Army facilities is limited to a practical number selected from Federal Standard 595A: Colors. General guidance for color selection is provided in TM 5-807-7 Colors for Buildings. Color should be used to stimulate human physical and emotional reactions and to enhance the overall functionalism of the facility. Use neutral base colors in office areas and consider brighter base colors and accents in casual seeing spaces in critical seeing areas, glare, brilliant colors and great brightness differences, both in the lighting system and in the color of walls, floors, furnishings, and equipment, should be avoided.

**(3) Finish Materials** Finish materials must be selected in conjunction with color selection. The color, texture and pattern of materials should complement the overall design scheme and be in character with the desired image of the using service and the installation/command. Native (local) materials should be used to the greatest extent practicable, consistent with the architectural character of criminal investigation facilities. Long-life materials such as masonry, tiles and woods, should be selected to provide attractive accent colors, textures and patterns that will not quickly become out-dated. Painted surfaces and patterns are relatively easy and inexpensive to refinish and can be kept fresh, clean, and up-to-date in appearance.

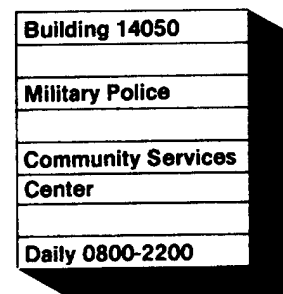
**f. SIGNAGE AND GRAPHICS** Interior signage and graphics requirements will be specified as part of the overall facility design. Detailed requirements of the using service will be coordinated at the local level. The graphic information systems should assure maximum economy, ease of procurement and installation, and standardization of application throughout the facility. Design details should inhibit vandalism and excessive maintenance but be flexible enough to enable the addition of or deletion of information. The signage system should incorporate the following types of signs.

**(1) Message Format** The use of wall graphics and symbols instead of words should be considered to establishing the message format of signage and graphics systems. The usefulness of symbols as an element in the graphics format has been established in this country and internationally. They cut down on the amount of signage required and are easier to "read" In the case of prohibition signs ("No Smoking" or "No Entry"), symbols cause less resentment or opposition than if the message had been in words. Where words are required, use a type style such as Helvetica Medium individual letter sizes are designated by the height of the capital letters. Typical uses are 1" for registers and general information signs, and 2" for directional and Identification signs and any signs where background lines are 3" apart. Four inch lettering should be used where the background lines are 6" apart. Signs should be located as close to eye-level as possible and should be illuminated to provide adequate comprehension, either by room lighting or by special sign lighting avoiding reflection glare.

**(2) Facility and Activity Identifiers** A facility identification sign should be located along major vehicular access routes and pedestrian pathways and should be oriented toward the principal flow of pedestrian traffic. The sign should identify the building number and the functions of the facility. It may also indicate the function by use of using service symbol or insignia. General information may include a listing of principal activities and hours of center operation.

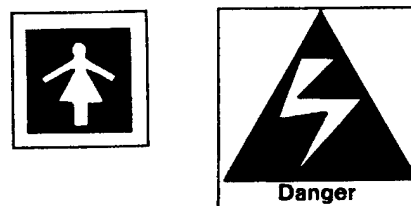
Size of lettering and the exact location of the sign should be determined in each individual case in relation to the architectural design. Four inch lettering on 6" panels or 2" lettering on 3" panels, similarly used as discussed under "Identification Signs" below, is recommended. Low horizontal activity Identification signs, using 2" lettering on a 4" panel, placed a maximum of 12" from the ground, should be used at visitor access points and other places where the control of site circulation is essential. Signs identifying restricted areas, or "visitor parking", etc. should also indicate the proper direction. Where day and night activities require clear identification and directional information, facility and activity Identification signs should be well lighted. Refer to Figure 3-8 for guidance.

Figure 3-8 Facility and Activity Identifier Signs



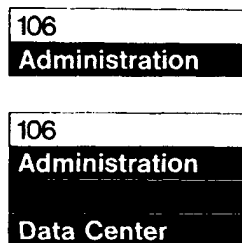
**(3) Pictographs or Symbol-Signs** There is no more simple, more direct or economical way to convey certain forms of information than by use of symbols or pictographs. This is particularly important where clear multi-lingual communication is essential. In such cases, use symbol-sign panels approximately 6" square for most Identification purposes, on doors only (toilets, phones, utility rooms, stairs, etc.). Use sign panels approximately 12" square for prohibitory signs ("No Entry," "No Smoking," etc.). The location of exits, fire protection and other safety equipment should be strongly emphasized as appropriate Figure 3-9 indicates typical symbol-signs

Figure 3-9 Typical Symbol-Signs



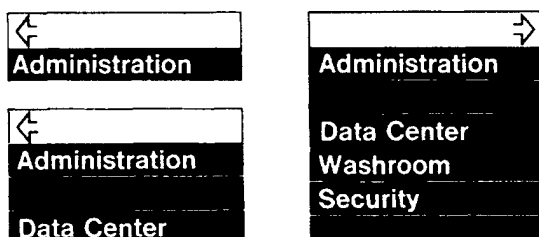
**(4) Space Identification Signs** When words and numbers are required as part of an individual space identification, use sign panels approximately 3" by 24" on the wall next to entrance doors and on the side adjacent to the opening swing of the door. A white letter form on black background is recommended where words are required. The number of 3" by 24" sign panels for each space will depend upon how much information must be displayed Refer to Figure 3-10 for guidance.

Figure 3-10 Space Identification Signs



**(5) Directional Signs** These signs can make use of the same sign panels as recommended under identification. Signs Refer to Figure 3-11 for guidance.

Figure 3-11 Directional Signs



**(6) Activity Locator Boards** The primary purpose of activity locator boards is to assist in the control, administration and dispatch of military police services. The design of individual activity locator boards should be coordinated with the using service. Generally these boards are of two types: Operations Boards and Administration Boards Operations Boards will be located in the Operations Office and at the On-duty military police desk and will be of a size and sophistication capable of meeting specific operational requirements. The On-duty desk board will be large enough to display the map of the installation and should have space for the visual display of satellited activity areas. These boards may be electrified to facilitate the use of illuminated locating systems. In all cases, activity locator boards should be well lighted In general, activity locator boards require a large horizontal wall space, usually 8'-10' in length.

**(7) Notice Boards** Notice boards help control clutter and can readily accommodate changing information. They should be used throughout the building wherever they will be most useful. A general notice board should be located in the entrance to the facility. Smaller boards may be located next to entrances to functional activity areas where there is need for exclusive notices that elaborate on a specific type of activity, such as duty rosters or personnel notices, or give names of participants or staff involved in special details or on TDY, etc. Simple notice boards can be created by providing a 2 to 6 foot wide field of a solid base color mounted at the 7' level with a 6" white space above for the word, "Notices" in 4" lettering. One or two narrow cork strips attached at the 6' and 4' levels should be provided for thumb tacking notices.

**g. UNIQUE REQUIREMENTS** The local using service must specify unique or special interior design requirements. The following are typical items that require special interior design consideration.

- (1) CCTV monitoring systems
- (2) Security systems (Reference appropriate surveillance and intrusion detection regulations). Required for Operational Equipment (Arms & Evidence) Storage
- (3) Special communications equipment as required and specified by the using service
- (4) Special police operations equipment as required
- (5) On-duty desk area built-in furniture
- (6) Prisoner-processing equipment and detention facilities as required.



### 3-5 Interior Furniture and Equipment

**a. REQUIREMENTS** Using service requirements for movable or non-permanent equipment and furnishings must be based on the 1391 estimate and Project Development Brochure completed during planning, as discussed under Paragraph 2-3 "Facility Development." All items of equipment and furnishings which are permanently built-in or attached to the structure as defined in AR 415-17, are considered part of the building. Other items which are loose, portable, or can be detached from the structure without tools are generally provided by the using service under separate contract. Items appropriate for individual spaces are identified under individual space criteria. During final selection, preliminary schedules should be reviewed carefully, coordinated again with the local using service, and verified against the latest mandatory source catalogs.

**b. SELECTION FACTORS** The following principal factors should be considered by the using service. In selecting appropriate furniture and equipment for facilities

(1) **Appearance** Furniture and equipment must be an integral part of the overall building design and should be closely coordinated with the selection of colors and finish materials for consistency in appearance quality. Clear relationship between the furnishings finish schedule and the building finish materials should be evident.

(2) **Durability, Comfort and Safety** Careful attention must be given to all interior furnishings to insure that the type of furniture and equipment chosen conforms to standards of durability, comfort, and safety appropriate for the use they will receive. Being generally mobile, these items are subject to handling. Parts that receive the most wear should be replaceable, and finishes should sustain regular cleaning. Colors, textures, sizes, proportions, shapes and reflections are important comfort factors that should be considered. Furniture and equipment must withstand loading conditions without damage. Edges and surfaces should be smooth and rounded. Materials must be flame-retardant.

(3) **Mobility and Interchangeability** Most interior furnishings should not be of a scale which would require more than two persons to relocate them, or be so complicated as to require an undue amount of time to assemble or disassemble. Whenever possible, care should be taken to choose multi-purpose furnishings aesthetically suitable for a variety of needs and activities. Stackable and foldable furniture should be considered for reducing bulkiness in storage and transport where such requirements exist.

### 13-6 Provision of User Information

**a. COMPLETION RECORDS** In order to gain maximum effectiveness in using the facility, the using service should be provided with a supplement to the completion records required by AR 415-10. This supplement should contain information on how to best utilize the facility based on standard operating procedures, performance criteria and intent of design for the principal elements of each individual project. It should also include information on related maintenance and operational factors covered in the completion records. Information should be provided in a form that facilitates understanding and use by the using service as well as Facilities Engineer personnel. Material should be included to cover major design intentions for the utilization of interior spaces and built-in design features in conjunction with furnishings and equipment schedules. In addition, AR 415-10 requirements include the following documents and records which must be submitted to the using service upon completion of the project.

(1) Contract documents, cost data, and other pertinent information required for accountability records.

(2) Manufacturer's catalogs, maintenance and operating manuals, and other instructions. These items will be made available as soon as possible, but not later than the date upon which maintenance and operational responsibilities are transferred to the using groups.

(3) Equipment guarantees by the contractor, subcontractors, and material vendors.

(4) Copies of wiring diagrams, records, maps and complete, legible, as-built drawings and specifications, corrected to show all changes from the originals, including supporting utilities.

(5) Specialized keys, handles and tools required for operation of building equipment and systems.

**b. DRAWINGS AND SCHEDULES** Floor plans, interior design and furniture and equipment schedules must indicate items which are part of the building and cannot be removed, and those that are detached and can be removed or may remain with the building if relocation becomes necessary. Removable items must be procured by the using service. This usually requires color coding of equipment and furniture according to type and functional use. A specific color should be used for items procured under separate using service contract. All items must be color coded and presented in a format and schedule that can be readily understood by installation or using service personnel who are responsible for component placement and utilization.

after delivery. Display sheets consisting of placement plans, catalog illustrations, material/color samples and perspective sketches of typical spaces, together with procurement lists, equipment schedules, color coding, source data and cost estimates should be developed as appropriate to accomplish this objective.

## 3-7 Environmental Services

**a. GENERAL** There are five separate habitability support systems: heating, ventilation air conditioning, plumbing and electrical sub-systems. Since these systems interact with each other the layout of requirements must be integrated to produce a total environmental services design. This design must be coordinated with architectural-, structural-, and site-planning and design requirements. The correlation of the design of each of

the environmental services should be done at all stages of the design of the building. This is particularly important to the proper selection of the various building components related to each sub-system (HVAC, plumbing and electrical). For example, in the selection of a ceiling system, the acoustic, lighting and air conditioning requirements must be considered; in the selection of a structural system, the capabilities of the system for providing required electrical and telephone service to general offices should be considered. The importance of this aspect of the design of the environmental services for a particular building cannot be over-emphasized if the building is to function as an integrated unit. The items contained in Table 3-4, provide a checklist of environmental services design considerations and should be reviewed for individual projects to assure that all important design factors have been considered.

**b. OBSOLESCENCE** In the selection of any com-

Table 3-4: Environmental Services Design Considerations

Items	Concerns
(1) General	Coordination of Sub-System Design; Coordination with Architectural, Structural, Site-Planning Components
(2) Obsolescence	Design Performance; Life Cycle Costs; Operational Flexibility
(3) Life Cycle Cost	Initial Installed Cost; Operating Costs; Maintenance Cost; Energy Cost; Replacement Costs
(4) Expansion	Space Requirements Cost; Design; Necessity; Timing
(5) Building Sub-Systems	HVAC; Electrical; Special Equipment; Plumbing
(a) Design Criteria	Functional Requirements; Habitability; Safety; Efficiency; Economy; Life Cycle Costs; System Value
(b) Weather Zones	Inside Temperature, Humidity, Climatic Conditions
(c) Comfort Conditions	Near Building Perimeter, Core and Circulation Areas; General Humidity Inside Buildings; Special Requirements
(6) Heating	
(a) Cabinet Heaters	Entrances; Lobbies; Stairs with Exterior Walls; Mechanical Equipment Rooms; Outdoor Design Temperature
(b) Snow Removal	Heavy Accumulation; Major Entrances, Operational Areas; Overhangs
(7) Ventilation	Natural vs. Mechanical
(a) Requirements	Functional Effectiveness; Odor Removal; Comfort Conditions; Safety
(b) Special Conditions	Air Conditioning; Odor Removal; Heat
(8) Air Conditioning	Outside Temperature Conditions; Solar Heat Gain; Internal Heat Gains; Functional Requirements
(a) Room Units	Expense; Water Control
(b) Central Air Systems	Expense; Cooling, Dehumidification, Ventilation of all Building Spaces
Low Pressure	
Multi-Zone	
High-Pressure, Single	
High-Pressure, Dual	
(9) Operational Requirements	
(a) Noise	Quality of Operations; Mission-Effectiveness; Habitability; Function
(b) Acoustic Security	Confidentiality; Comfort; Functional Requirements
(c) Temperature Control	Comfort; Economy; Functional Requirements
(d) Humidity Control	Comfort; Economy; Functional Requirements
(10) System Selection	
(a) Perimeter System	Winter Heating, Summer Cooling; Physical Need; Functional Requirements
(b) Interior System	Year-Round Cooling; Size of System; Number of Zones; Noise Considerations; Permanence of Zones
(11) Designing for Flexibility	Change; Expansion
(a) Most Flexible	Life-Cycle Economy; Probability of Change in Size, Mission and Function
(b) Less Flexible	Stability, Durability and Permanence of Function, Equipment and Facilities
(12) Mechanical Equipment	Proximity, Accessibility; Vibration, Noise Control; Efficiency; Economy and Life Cycle Costs
(13) Electrical	
(a) Electrical Service	Building Size; Needed Capacity
(b) Electrical System	
(c) Distribution System	Functional Activities Requirements; Flexibility; Probability of Change
(d) Emergency Power	
(e) Auxiliary Support Power	
(f) Special Requirements	
(g) Exterior	Site Planning, Landscaping, Coordination; Accessibility; Safety; Ease of Maintenance
(14) Special Equipment	
(a) Security Equipment	
(b) Communication System - Telephone	
(c) Recessed Conduits	
(d) Fire and Safety	
(e) Smoke Detection	
(f) Fire and Smoke Control	
(15) Plumbing, Waste, Service	
(a) Hot, Cold Water	Toilets, Lavatories; Drinking Fountains; Kitchen Units
(b) Water Heaters	
(c) Sanitary Drainage	Relationship Between Sewer Lines and Facility Services; Cost
(d) Storm/Water Drainage	

ponent of a sub-system consider the long-term implications for obsolescence as they affect performance and cost. For example, a roof-top air conditioning unit has relatively low initial cost compared with other systems, but an expected useful life of only 15 years, after which time it will probably require extensive repair or replacement. Thus, over the life of the building, the comparatively shorter useful life of a sub-system might offset the initial cost advantage.

**c. LIFE CYCLE COST** In addition to obsolescence, the total life cycle or operating cost of the major components of environmental services sub-systems must be considered. This total cost comprises the initial installed cost, the maintenance cost and the energy cost of the component over its useful life. For example, if it is known that the initial installed cost of large refrigeration equipment using air-cooled condensers is less than the initial installed cost of refrigeration equipment using water-cooled condensers, but the energy cost of equipment using air-cooled condensers is substantially higher; then the total owning and operating costs (the life cycle cost) would generally be higher for air-cooled refrigeration equipment. Invariably, large refrigeration equipment will employ water-cooled condensers unless other factors govern the selection of major sub-system components, such as a lack of makeup water, etc.

**d. EXPANSION** In designing environmental services sub-systems, consider the need for future expansion of each sub-system due to expansion of the building. Solutions may involve providing spare capacity when expansion of the building in the near future is probable. Also, the provision of space for additional equipment for possible extension of the building in the longer-term future should be considered. Nothing in the design of any environmental services sub-system should preclude the replacement or relocation of equipment when extension of the building has been definitely projected. Such provisions for future expansion always result in an increase in costs. The need for and timing of expansion should be carefully evaluated before a decision is made to program for it in order to justify the additional costs involved. Another possibility is to provide for incremental growth by requiring any future expansion to be accomplished by constructing fully serviced modules with their own environmental systems. In this particular case, although the initial building construction programs may be left unaffected, the site utilities requirements must include or permit provisions for modular expansion of environmental services.

### 3-8

## Environmental Service Sub-Systems

**a. GENERAL** Environmental services are divided into three major sub-systems: heating, ventilating and air-

conditioning (HVAC); plumbing; and electrical. The following descriptions of each sub-system are intended to familiarize the non-technical user with various criteria involved in sub-system selection and design, and to provide guidance to the engineer and architect.

**b. HVAC** The heating, ventilating, and air conditioning system for a building is generally concerned with providing a comfortable interior climate. While the technical meaning of the word "air conditioning" includes heating and ventilating, it is commonly used as a synonym for cooling. It is used both ways here, depending on the context. For standard applications, refer to DOD Construction Criteria Manual 4270.1-M and to Technical Manual TM 5-810-5.

**(1) Weather Zones** Refer to DOD Manual 4270.1-M for definitions of weather zones, inside temperature and humidity to be maintained, and, under Programming Priorities, whether or not military police buildings are to be provided with comfort cooling systems. The number of hours of wet bulb and dry bulb for the site will be obtained from Technical Manual TM 5-785, "Engineering Weather Data."

**(2) Comfort Conditions** In order to get comfortable temperature conditions close to windows, and in order to maintain comfortable humidity levels inside the building, consider the use of double glass or storm sash in buildings located in cold weather zones. Wherever a building is to be air conditioned (cooled), consider tinted glass, double glazing, and/or storm windows, thus reducing the size, initial cost and operating cost of the air conditioning system. As a protection against over-dependency on artificial systems in critical operational areas, well-sealed, operable windows should be provided, especially in all exterior spaces under 160 square feet.

**c. HEATING** The heating is usually provided by hot water obtained from a central heating plant on the installation or from a boiler in the building. If the installation has either a central steam or high temperature water system, heat exchangers should be provided in the building to heat water that can then be pumped to the various areas of the building.

**(1) Cabinet Heaters** Fan-type unit heaters should be provided at all entrances and in all lobbies, stairs with exterior walls, mechanical equipment rooms and other such areas requiring heat. Cabinet heaters will not be provided where outdoor design temperature is +20 degrees F or higher. Whenever a large group of people enters or leaves a building, both the inner and outer doors of the vestibule are open and large amounts of cold air enter the lobby. Thus, wherever a lobby has a vestibule, a cabinet-type unit heater in the lobby is to be preferred to one in the vestibule for quick recovery and more stable lobby conditions.

(2) **Snow Removal** In areas where heavy snow accumulations are anticipated, consider the use of a snow-melting system for all major visitor/staff and on-duty entrances and operational areas and for overhangs above covered guard mount areas.

**d. VENTILATION** The ventilation system for a building can be achieved either by natural ventilation or by mechanical ventilation. While natural ventilation (operable windows) is always preferable, it leads to such great restrictions in the efficient use of space that it is not a significant factor in the design of the building. Mechanical ventilation includes the supply, exhaust, and recirculation of air either by separate or combined systems or both. Typically, an air-handling unit will pull in fresh outside air, filter, cool or heat it, and deliver it via ductwork to various spaces. The suction power of the air-handling unit, aided by the pressure buildup in the various spaces, also acts to draw air out of the various spaces and, through modulating dampers, exhaust all or part of this air to the outside and return the rest to the unit. Return air mixes with fresh air, the mixture is filtered and heated, and the mechanical ventilation cycle continues. The mixture of fresh and returned air is normally closer to the desired room condition than 100% fresh air, requires less heating, and, therefore, saves energy and costs. Where exhaust quantities are small, replacement air can be "borrowed" from adjacent spaces, where significant quantities of exhaust air are involved (e.g., interior briefing rooms), a system must be provided to supply makeup air.

(1) **Requirements** Odor removal is the main purpose of providing fresh air in a ventilation system. Hence, exhaust outlets should be located above or close to odor sources and the quantity of air exhausted should be related to the source of the odor. Thus, the quantity of air exhausted from a toilet or detention area is usually 2 cfm per square foot of area, while from a briefing or operations room it is usually only 1 cfm per square foot. In the on-duty operations area, some air is exhausted through vents above heat-producing equipment and some from the room in general.

(2) **Special Conditions** In air conditioned buildings, separate exhaust systems may also be required for conference/briefing rooms (smoking, comfort, or function) and for odor and heat-producing areas such as detention areas and communications rooms. These exhaust systems may be set up to be in use only when the space is occupied. If the area is large enough to require a separate supply air system, then the associated return air system can be arranged to function as an exhaust system when desired.

**e. AIR CONDITIONING** The heat gain of any space, and hence the amount of cooling it needs, depends not only on outside temperature conditions and on how much direct sunlight it gets (solar heat gain), but also on functional requirements; how many lights

are on; how much equipment is in the space, and how many people are in it. Since all the functional and operational requirements and environmental factors contributing to the heat gain of a space vary with the time of day and with the use and orientation of the space, the main problem in air conditioning system decision is to match the amount of cooling delivered to a space to its heat gain and comfort requirements. This may also involve reheating of cooled air, however reheating is not permitted where personnel comfort is the only consideration. Reheating may be permitted where operational effectiveness depends on prescribed comfort conditions (e.g., prisoner holding, communications center, on-duty operations areas, etc.). Air conditioning systems that meet the operational requirements of military police activities must be designed to set both solar and internal heat gains.

(1) **Room Units** Individual units contain a heating/cooling coil, air filter and a small fan or induced air nozzle and provide all the heating and cooling requirements of the space. These units are most commonly used in perimeter systems, however, they can also be used in interior systems. It is comparatively easy to control the quantity of water to each unit thus, each unit can be made into a separate zone relatively inexpensively. Another advantage of room units is that the initial installed cost is less than that of an all-air system. The main disadvantage of the room unit system is that no 'free cooling' is possible as with the all-air system.

(2) **Central Air Systems** The air conditioning systems currently in use represent different methods of utilizing two basic ways of cooling a space: one is to cool air in a central unit with the refrigeration equipment, and then deliver this air to spaces to be air conditioned; the other is to cool water and deliver the water to room units where room air can be blown past a water coil and be cooled. The requirement of a good air conditioning system is that it should provide, in the most economical way possible, the cooling, dehumidification and ventilation requirements of all the various and different spaces in a building. The following four basic central air systems have possible application to military police facilities.

(a) **Low-Pressure** Air is cooled in a central unit and distributed to various spaces through low-pressure ducts, with a constant air quantity being supplied. The amount of cooling provided to any particular space can be controlled by varying the volume of supply air or the temperature difference between the room and the supply air. The different spaces are grouped in zones for similar geographic orientation and similar use, and the cooled air going to any particular zone is tempered to match the zone requirements. A space will be under or over-cooled to the extent that it differs from the average for that zone. Where individual control is essential, consideration should also be given to the use of terminal

units with low velocity control as a means of providing variable air volume systems.

(b) *Multi-Zone* In a central unit, some of the air is cooled while the remainder is heated. The various spaces to air condition are grouped in zones, and a separate low-pressure duct runs from the central unit to each zone. The cooling required by each zone can thus be varied by adjusting the proportion of heated and cooled air going to that zone.

(c) *High-Pressure, Single Duct* Air is cooled in a central air unit distributed through high-pressure ducts, reduced in pressure by air pressure-reducing boxes, and delivered to the various spaces through low-pressure ducts. The cooling provided to any particular space can be varied by adjusting the volume of air delivered to the space and/or by heating this cooled air.

(d) *High-Pressure, Dual Duct* In a central unit, some of the air is cooled while the remainder is heated. This air is then carried in separate high-pressure ducts to dual-duct air pressure-reducing boxes called mixing boxes, where the hot and cold air streams are reduced in pressure and mixed to meet the cooling requirements of the space served by that particular box.

**f. OPERATIONAL REQUIREMENTS** Where certain buildings are not to be air conditioned (cooled) based on the weather zone criteria comfort, cooling criteria should be superseded by operational requirements. Generally, the on-duty operations area of the facility will require air conditioning or mechanical ventilation in order to maintain maximum operational effectiveness. The following factors should be considered in determining the operational requirements of HVAC systems.

(1) **Noise** Any air conditioning system must be designed so that the noise generated by the system is not objectionable. Noise is produced by the operation of the equipment, by the movement of air and water through ducts and pipes respectively, and by the passage of air through air outlets. Where auditory disturbances or physical vibrations can affect the quality of operations, such as in the communications room undesirable equipment noise should be minimized by selecting well-insulated equipment that is quiet in operation. In addition, residual noise disturbance can be eliminated by requiring that equipment should be installed on spring or rubber vibration isolators. In some cases, such as with fans and pumps, it may be necessary to mount the equipment on thick concrete pads and then mount the entire assembly on vibration isolators. In addition, piping that may vibrate should be isolated from the equipment and from the building structure.

(2) **Acoustic Security** Noise generated by the movement of air through ducts should be controlled by the use of acoustic lining in the ductwork and/or

acoustic lining in all ducts serving operational spaces, such as on-duty desk areas, interview and investigation areas and briefing/conference rooms. Noise generated by air outlets should be controlled by the proper selection and location of these outlets, both for noise and for draft-free operation. However, in corridors and in administrative office areas it may be necessary for the air outlets to create some noise. This is necessary in order to raise the ambient noise level to a level which achieves the overall confidentiality and acoustic security required of law enforcement activities. Too low an ambient noise level encourages improper and unintentional eavesdropping. The installed system should be tuned to the desirable ambient noise level within a design range that is still protective of acoustically sensitive police operations. Reference TM 5-805-4 and ASHRAE Guide.

(3) **Temperature Control** Generally, HVAC systems require that some means be provided for automatically regulating the heating and/or cooling requirements of individual spaces. This can be achieved by pneumatic, electric, or electronic systems, or a combination of these. A control system will function only within the limitations of the system it serves. Thus, in a fan-coil unit system, if the north and east units are combined into one zone, the automatic temperature controls cannot provide cooling of the east units and heating of the north units.

(4) **Humidity Control** The process of cooling air is always accompanied by dehumidification, thus during the cooling season humidity control is not a major problem. However, reducing the amount of air delivered to rooms, as in a variable volume system, will result in a decrease in its dehumidification capability. Too great a reduction of air may cause a humidity problem. For this reason, in spaces where evidence or records are stored or where groups of people work or gather, some form of reheat is always used. Reheating allows humidity to decrease. During the heating season, relative humidity inside a building can get too low due to the heating of the air. At this time, moisture must be added to the air to raise the humidity level for two reasons first, because a too low humidity dries the skin and causes discomfort; second, because a higher humidity enables the room temperature to be maintained at a lower level for the same degree of comfort, thus saving fuel costs.

**g. SYSTEM SELECTION** In selecting an HVAC system for military police facilities, consider each of the systems discussed above in terms of the needed individual functional activities and the operational requirements of spaces served by perimeter and interior systems. Tables 3-5 and 3-6 provide general guidance in selecting an appropriate HVAC system. In general, select the least costly and most efficient system in terms of energy consumption and required maintenance.

**(1) Perimeter System** The need for winter heating and summer cooling for the perimeter areas of the building usually dictates the selection of either the fan-coil unit or the induction unit system. In the case of induction units, ventilation air is furnished by individual room units. In the case of fan-coil unit ventilation air may be furnished by room units (using openings in the perimeter wall behind the units) or may be supplied by a central air system, depending upon architectural considerations and the need for a central air system to supply air to interior areas. In order to match the cooling capacity in air conditioning systems to physical need and functional requirements, the piping and the high-pressure ductwork for induction unit systems must be multi-zoned and related to north-south exposure and heat gains, i.e., all units on the north side of a building are served by the same piping and duct system; all units on the south side are served by another piping and duct system, and so on. When space requirements are not extensive, the north and east systems, and the south and west systems may be combined in the interest of economy.

**(2) Interior System** For interior space, where cooling is required year round regardless of the weather, an all-air system is usually preferred. The selection of the type of system depends upon the size of the system, the number of zones required, noise considerations and the permanence of these zones. For a small facility requiring multiple zones of operation, a multi-zone air system may be appropriate. For larger buildings with additional zones, the high-pressure single-duct system may be more suitable. Dual-duct systems have specialized properties that provide increased safety and fire protection; the largest military police facilities may require such additional provisions.

**h. DESIGNING FOR FLEXIBILITY** Where a change in environmental services requirements or expansion of a facility is probable, some means of adapting to changes in the size and location of functional activity areas, without requiring major changes in the environmental services system, is desirable. Modules used for space planning are often too small to be used as HVAC planning modules, although electrical and plumbing modules usually coincide. Therefore, a multiple of the space-planning module is typically used. Thus, for facilities that adopt a space-planning module of two feet and require air outlets with low noise and no air-drafts, an interior HVAC module four feet wide by ten to fourteen feet long would be required.

**(1) Most Flexible** A comprehensive approach is required in selecting the environmental services for a functionally integrated facility. While the example requirements listed below provide good modular flexibility, the very high initial installed cost dictates that such a system be carefully evaluated in terms of

life-cycle economies and be used only where a reasonable degree of change in the size, mission or function of operational and administrative support activities is probable or predictable. Such a system may be required in functional areas where a high degree of flexibility is essential to operational effectiveness. The basic requirements of a comprehensive environmental services system are:

- (a) Each interior module should have an integrated lighting fixture and air outlet.
- (b) Each alternate outlet-fixture in both directions in a checkerboard pattern should be a supply air outlet and the other a return air outlet.
- (c) Each alternate perimeter module should have a room unit.
- (d) Each perimeter module should have an integrated light fixture and air outlet for ventilation air purposes, with supply air units alternating with return air units.
- (e) Each perimeter room unit should have automatic temperature controls, while the ductwork to the air outlets should be zoned.
- (f) Perimeter and interior modules should be placed in a permanent space-divider grid to insure compatibility of space organization.

**(2) Less Flexible** Where a lesser degree of flexibility is required, the interior HVAC module may be increased in size to five or six feet square, or to four feet wide by eight feet long.

- (a) The air outlets need not be integrated with the lighting fixtures, or the module with the partition system, but a separate air outlet could be provided connected to the ductwork by small flexible ducts.
- (b) Air outlets should be provided only to meet the requirements of the initial space organization concept, partition layout, open operational activities or clustered administrative support.
- (c) Blanked-off connections (or stubs) should be provided at the main ducts for future relocation of the air outlets.
- (d) At the perimeter, a room unit should be provided every eight feet as before, however, ventilation air would be supplied through separate air outlets using small flexible ducts.
- (e) Even this degree of flexibility increases the cost of environmental services and should be limited to those areas where functional or operational requirements can be definitely established by the using service.

**i. MECHANICAL EQUIPMENT** The mechanical equipment required by HVAC systems should always be located as close as possible or central to the primary areas it serves, but on the exterior of the facility, in a locked and secure space accessible from a main corridor. For large buildings, it may be more economical to have more than one mechanical equipment room. Roof-top mechanical equipment rooms do not require

Table 3-5: Qualitative Analysis of Perimeter HVAC Sub-Systems

		System Characteristics				
		Installed Cost	Operating Cost	Noise	Modular Flexibility	Zone Control
Alternative Subsystems	Fan-Coil Room Unit	+	-	o	o	+
	Induction Room Unit	+	-	o	o	+
	Low Pressure Air	o	o	+	o	-
	Multi-Zone Air	o	o	+	-	o
	Single Duct High Pressure Air	o	+	+	+	+
	Dual Duct High Pressure Air	-	o	+	+	+

**Note:** A quantitative analysis of perimeter sub-systems, which is helpful in evaluating suitable alternates, can be obtained by the following procedure:

- Install a numerical value relative to the priority of concern for project development represented by individual system characteristics. For five similarly important characteristics choose a consecutive positive range, such as 1, 2, 3, 4, 5, etc. When the characteristics represent greater differentials, such that noise or flexibility factors are insignificant, for example, choose a negative/positive range, such as -10, -5, 0, +5, +10, etc.
- Substitute +1, 0, -1 for good, fair and poor respectively
- Multiply the value of each characteristic by the qualitative value of each sub-system alternative and add horizontally

Table 3-6: Qualitative Analysis of Interior HVAC Sub-Systems

		System Characteristics				
		Installed Cost	Operating Cost	Noise	Modular Flexibility	Zone Control
Alternative Subsystems	Low Pressure Air	O	+	+	O	-
	Multi-Zone Air	O	+	+	-	+
	Single Duct High Pressure Air	+	+	O	+	+
	Dual Duct High Pressure Air	-	O	O	+	+

**Note:** A quantitative analysis of interior sub-systems, which is helpful in evaluating suitable alternatives, can be obtained by the following procedure:

- Install a numerical value relative to the priority of concern for project development represented by individual system characteristics. For five similarly important characteristics choose a consecutive positive range, such as 1, 2, 3, 4, 5, etc. When the characteristics represent greater differentials, such that noise or flexibility factors are insignificant, for example, choose a negative-positive range, such as -10, -5, 0, +5, +10, etc.
- Substitute +1, 0, -1 for good, fair and poor respectively.
- Multiply the value of each characteristic by the qualitative value of each sub-system alternative and add horizontally.

space for outside air intake and exhaust ducts, and replacing equipment is easier than with basement or ground floor equipment rooms. However, these advantages are offset somewhat by the increase in the cost of the structure and the additional attention that has to be paid to vibration and noise control.

j. **ELECTRICAL** All electrical work shall be in accordance with DOD 4270.1-M and Technical Manual TM 5-811-1 through 4.

(1) **Electrical Service** Service to the building should be extended underground from the Installation electrical distribution system.

(2) **Electrical System** Electrical service and distribution equipment will be located in the utility room,

adjacent to the mechanical equipment room. Panel boards for signal alarm lighting and receptacle switches should be located either in a separate electric closet in the utility room when supervision is not required or possible or on a fixed wall located to minimize wire and conduct lengths either in the duty agents office when security is a factor or in the supply and maintenance room when logistics is the main consideration. Power to a switch which disconnects the intrusion detection system for the building will be supplied from the line side of the distribution panel. This is required in order to prevent AC power from being inadvertently or intentionally interrupted. The disconnect switch handle will be capable of being padlocked in either the on or off positions.



**(3) Distribution System Characteristics** Provision of electrical outlets for field office activity areas should be made on the basis of initial requirements of individual functional activities. The extent of services depends on the degree of flexibility required and on the probability of change. Provide for electrical outlets in all office areas. Where offices are small and fixed partitions exist, permanent wiring may be run in partitions and receptacles provided. Where areas are large and without subdividing partitions, underfloor ducts should be provided for both power receptacles and signal telephone outlets so that receptacles may be installed or removed as required.

**(4) Emergency Power** Consideration should be given to the basic necessity of providing emergency power to enable people to find their way out of the building when normal power falls, especially after dark. Emergency power is required for exit signs, stumble lights or back-up power for the fire alarm system and security system. The number and size of systems required to be on emergency power will depend upon the probability of failure of the primary power source. The emergency power requirements for individual projects must be coordinated with the local using service.

**(5) Auxiliary Support Power** Back-up power may be provided as auxiliary support by individual battery units, a central battery system or by an engine-generator set. Determination of the type of auxiliary support provided will be based upon economics alone.

**(6) Special Requirements** Where authorized by the local installation and required by the using service, provisions will be made in the building design for the addition of an uninterruptible source of power. Uninterruptible power sources will not be procured with MCA funds. Such provisions as an operating agency-furnished mechanical equipment requirement will be made.

**(7) Exterior Site Requirements** Exterior and site electrical requirements should be established in conjunction with the site planning and landscaping plan. Exterior receptacles and power sources for telephones, lights, illuminated signage and other such requirements should be selected or designed for accessibility, safety and ease of maintenance. Exterior lighting should be provided for the staff and public parking areas, for active operational areas, for storage and impoundment areas and for the pedestrian walks around the facility.

**(8) Special Equipment** The electrical power requirements of all electrical or electronic equipment and fixtures should be determined and provided for this includes reproduction/duplication equipment, photographic equipment, electronic data processing and communication equipment, recording and transmission equipment and special intrusion detec-

tion and alarm devices. It does not include electric typewriters or mini-computers or other small equipment which is usually plugged into the convenience receptacles ordinarily provided.

**(a) Security Equipment** Intrusion detection devices are required for the mail, arms and evidence rooms and for other special space where intrusion detection is required to maintain secure conditions. Intrusion detection devices and other security equipment should be connected to the military police station security monitor. Annunciator/register panels should be located in the on-duty operations area. In addition to these devices, a closed circuit television system will be installed to monitor the secured parking areas as well as exterior entrances to the building and other sensitive areas as determined by the provost marshal and security officer. CCTV monitors will be required within the on-duty operations area and remote cameras will be located to provide unobstructed viewing by on-duty desk personnel.

**(b) Communication System** Normal communication is achieved by means of the telephone system. Requirements for telephones should be established at the time of space planning, and empty conduits for telephone cable provided in large general office spaces, the empty conduits for telephone cable are provided in a manner similar to conduit for receptacles, as discussed earlier. Cellular floors, when used, may have cells assigned for telephone wiring. Underfloor duct systems require an extra, separate duct for telephones. Provisions must be made for radio equipment required. Office intercom is satisfactorily provided by the phone system.

**(c) Electrical Conduits** Empty electrical conduits will be used where future special communications or electronics equipment is required. Current regulations will allow only empty conduits when MCA funds are used. Procurement of CCTV cables and equipment is not authorized under MCA programs.

**(d) Fire and Safety Equipment** Fire and safety equipment should be provided in accordance with DOD Constructron Criteria Manual 4270.1-M, the requirements of the National Fire Protection Association (NFPA), and Technical Manuals TM 5-812-1 and TM 5-813-6.

**(9) Smoke Detection System** A smoke detection system should be provided for all the air-handling systems, arranged in such a way that these systems supply 100% of outside air and exhaust all the air circulated whenever smoke is detected in the air-handling system or the fire alarm system is activated. This is to clear the building of smoke, which is a greater hazard to people than fire. In addition, smoke detectors should be provided in all areas where fires could start and not be detected easily, such as evidence and records storage rooms, janitor's closets, interview rooms and under floating or raised floors.

**(10) Fire and Smoke Control** Fire and smoke control in air-handling systems must be in accordance with NFPA Standard 90A. Standpipes and fire hose cabinets should be provided in buildings two stories high and over with more than 10,000 square feet on any floor. Standpipes shall be as required by DOD Construction Criteria Manual 4270.1-M and NFPA standards 13 and 14.

**k. PLUMBING, WASTE AND SERVICE SYSTEMS**

All plumbing requirements should be provided in accordance with DOD Construction Criteria Manual 4270.1-M and technical manuals and regulations governing special sub-system requirements. TM 5-810-5 is a primary reference document for special equipment requirements, and DOD Construction Criteria Manual 4270.1-M contains tables providing basic design guidance for the allocation and scheduling of plumbing fixtures. Where special conditions dictate the selection of a site for project development that is not adequately serviced by primary water and waste disposal systems, it may be necessary to connect building service lines to these systems at some distances: this requirement should be guided by engineering criteria contained in TM 5-813-5 and TM 5-814-1.

**(1) Hot and Cold Water Plumbing Service** Hot and cold water service requirements are similar to civilian domestic systems employed in buildings with needs similar to military police facilities. While specific guidance for military construction does not exist, a comparison of Tables 10-1 and 10-6 in DOD Construction Criteria Manual 4270.1-M may assist in a decision on the allocation of services. In all cases, separate male and female toilets will be provided for use by visitors and staff. Individual detention and holding facilities will be provided in the lounge area for servicing breaks and field office meetings.

**(2): Water Heaters** Water heaters for domestic hot water use should be sized in accordance with TM 5-810-5, with steam or hot water required being supplied by the heating system. Domestic hot water recirculating pumps should be used to maintain water temperature at the plumbing fixtures. Refer to TM 5-810-5 instructions.

**(3) Sanitary Drainage Systems** The vertical relationship between existing installation sanitary sewer lines and facility services should be such that the proper installation of a sanitary drainage system will provide a flow by gravity and convey drainage from all plumbing fixtures and equipment to primary sanitary sewer systems. Where site conditions are such that direct gravity flow is not possible, sanitary drainage below the invert elevation of the primary service system should be collected and pumped out of the facility, as prescribed in TM 5-814-2. Below-ground vaults for equipment, discharge connection and cleanouts are required when such conditions exist. The cost of this additional plumbing requirement should be considered as a factor in favor of alternate site selection.

**(4) Storm/Water Drainage Systems** Site and facility storm drainage and interior floor drains should flow by gravity to the main drainage system. The need for additional sump pumps will depend on the location and type of storm/water drainage system used by the local installation. Where interior roof drains are provided, they should be designed in accordance with TM 5-810-5 and integrated with site drainage in accordance with TM 5-813-5 and TM 5-814-1. Floor drains should not be connected with the roof drainage system.

## Chapter 4 Space Organization Considerations

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# Chapter 4

## 4-1

### General

**a. BASIC REQUIREMENTS** The development of specific space organization principles is a basic requirement of the project development process. Space organization principles are used to develop the individual facilities-planning and space layout guidelines which will govern subsequent design development. The local using service must determine the appropriate organization-of site elements which will be used in the development of pre-design concepts. Space organization principles will normally be developed in support of functional requirements and prepared as supplemental data (illustrations, diagrams, etc.) for inclusion in the Project Development Brochure (PDB). Requirements for establishing space organization principles for individual military police activities and organizations are described in Sections 4-2 through 4-5. In developing the space organization principles most appropriate to the individual mission/function needs and local requirements, the using service must consider.

- (1) The functional characteristics of individual military police activities and organizational elements.
- (2) The physical characteristics of the functions, spaces and building and site facilities required by individual military police organizations.
- (3) The special operational and environmental requirements of individual activity spaces, general functional areas and the entire facility.
- (4) The combined functional equipment and personnel requirements and mission/peculiar planning and design considerations specific to individual organizational components.

**b. PREREQUISITES** Pre-design concepts are based on space organization principles appropriate to the specific needs of the local using service. Before appropriate space organization principles can be established, however, the using service must review preplanning decisions, operating agency guidance, and local requirements as well as give careful consideration to the general planning and design guidance contained in Chapter 3.

**c. SUBSEQUENT USE** Once appropriate space organization principles are identified, these principles will be used by design evaluation and using service personnel to ensure that architectural solutions achieve functionally desirable results. The various principles of space organization described in this chapter can also be used to develop requirements for improvement in the organization of existing individual activities and general

functional areas. In such cases, special functional requirements and existing conditions should be carefully reviewed by the using service in identifying specific applications.

**d. PRINCIPAL CONSIDERATIONS** There are several factors that govern the Identification of appropriate space organization principles. These primarily involve requirements for consistency in the function and operation of military police facilities and in the location of and relationship between principal organizational, building and site elements. The following factors should be considered in all cases.

**(1) Image** A major and consistent objective in the development of both new and existing facilities is the need to create a positive public image of military police activities. The public (military and civilian) must not be confused in its perception of law enforcement activities as accessible and helpful. Thus space organization principles must not inhibit the public's access to the services and assistance of police facilities. The creation of a positive public image is essential to the effectiveness of military police community service programs.

**(2) Organization** Consistency in the arrangement and function of organizational elements and individual functional activities is essential to a uniform application of the standard operating procedures of the Army's military police program. This consistency will be accomplished by establishing space organization principles that reflect the needs of similar working relationships and operating conditions rather than the scale and intensity of individual operations.

**(3) Planning and Design Standards** Regarding facilities-planning and design standards, internal space organization and building and site layout should adhere to generic functional requirements. Mechanical and technical requirements and environmental and structural systems layout should not be significantly affected by minor changes in the size of operational activities.

**(4) Continuity** The current operational characteristics of MP activities and organizations must be carefully evaluated to maintain continuity between existing approved functional and physical relationships and new operational requirements.

**(5) Economy** Space organization principles should provide for the economic construction of building and site elements and allow for the development of efficient support facilities.

**e. FUNCTIONAL OBJECTIVES** Space organization principles should satisfy mission peculiar requirements and operational objectives, which are generic to all military police activities. Space organization principles must provide for:

- (1) The development of a functionally integrated and operationally responsive facility.
- (2) The maintenance of functional integrity within individual activities and general functional areas.
- (3) The separation and control of visitor/staff circulation within and between major activity areas.
- (4) The definition of a clear order of movement from public to private to confidential activity areas.
- (5) The provision of physical requirements and environmental services which maximize energy efficiency and building economy and minimize long-term operating and maintenance costs.
- (6) The flexibility to rearrange or expand individual activity areas or to change or adjust basic law enforcement or administrative support techniques without the major interruption of unaffected activities.

## 4-2 Functional Characteristics

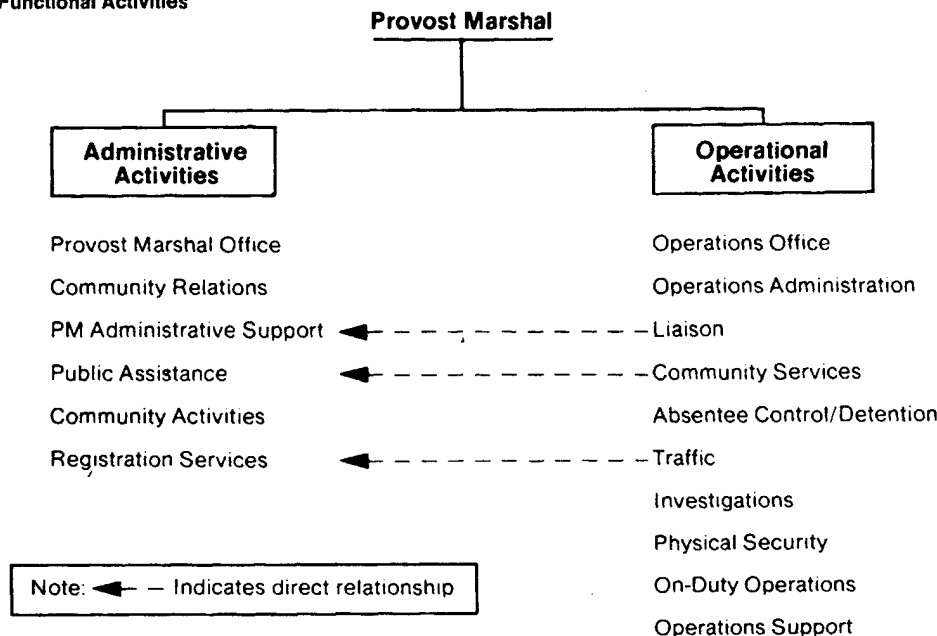
**a. ORGANIZATIONAL CHARACTERISTICS** Internal activities can be categorized into two principal functional groupings. Administrative (Public and Police Services) and Operational (Law Enforcement) activities. The organizational characteristics of these groupings

are functionally compatible and generally correspond to the "Public" and "Private" activity groupings described under physical characteristics in Section 4-3. It should be noted, however, that certain of the activities overlap, and all interact. Therefore, the local using service must accurately describe individual activities in terms of their primary or predominant organizational characteristics. In general, the grouping of military police activities according to functional compatibility lends itself to the arrangement illustrated in Figure 4-1.

**(1) Administrative (Public) Activities** When describing the organizational characteristics of administrative activities, consider the needs of both administrative and operational functions. For example, Registration Services, while primarily administrative (service oriented) in functional responsibility, supports the informational needs of several operations sections. Similarly, Community Relations, while performing its primary function of planning and coordinating activity that interacts with the community, also interacts, with each of the operations sections. Operations Administration, while performing its primary function of supervising the activity of all of the operations sections, routinely provides informational assistance to the public in an administrative (or public services) capacity.

**(2) Operations (Private) Activities** In terms of accurately describing the organizational characteristics of operations activities, their functions fall primarily within the military police Operations branch. However, the general supervisory functions of operations activities are considered to be office-type functions

4-1 Compatibility of  
Functional Activities



which are administrative in nature. For example, except for the general public service activities of the Operations Administration section and the MP Desk, the Operations Office supervises, manages and supports the routine aspects of all operations activities. Most subordinate operations activities are generally considered to be private-type activities. These activities employ the greatest number of military police personnel, perform most direct law enforcement and crime prevention functions, and receive and process all detainees and offenders. Descriptions of operations activities must indicate the natural and desirable functional and physical relationships that exist within the Operations Office, between it and the subordinate functional sections, and between the various individual functional activities of military police Operations branch and other military police activities.

**b. FUNCTIONAL RELATIONSHIPS** The functional relationships of Administrative and Operations activities are best expressed in physical adjacencies or separations. Emphasis should be placed on identifying relationships that will effect the most desirable and efficient operating conditions. Table 4-1 indicates typical functional relationships for military police activities. The degree of physical adjacency or separation will depend on the scale of the individual military police activity or organization being considered. Compared to the degree of physical adjacency required by small activities or organizations, large military police operations will require a greater degree of latitude in determining the proper distance between functional activities sharing functionally important relationships. Larger and more sophisticated MP operations are often comprised of a

number of subordinate and separate operations sections; these sections are often larger in terms of staff and space requirements than most sub-sections of small, less organizationally elaborate MP operations. Thus, in developing space organization principles that indicate desired functional relationships, the use of a semantic scale will best describe the degree of physical adjacency or separation among or within the major activity groupings in a military police facility. As a guide to the layout of functional relationships, average distances have been indicated for the descriptions listed below. These distances should be adjusted to the scale of individual operations. The types of functional relationships described below are typical, not absolute, and may vary according to the appraisal of local conditions and requirements.

**(1) Essential (Within a 25 ft. radius)** This describes relationships where it is imperative that the activities be physically adjacent in order to operate effectively.

**(2) Important (Within a 50 ft. radius)** This describes relationships where it is highly desirable for the activities to be physically close to facilitate interaction.

**(3) Convenient (Within 100 ft. radius)** This describes relationships where it would be satisfactory if the activities were not physically close and where effectiveness would not be impaired by separation.

**(4) Remote (Beyond 100 ft.)** This describes relationships where it would be expedient if the activities were physically remote, since functional effectiveness might be impaired by physical interaction.

Table 4-1: Functional Relationships

	Essential	Important	Convenient	Remote
<b>Functional Activities</b>				
1 PM Office	2, 3	5, 8	4, 11, 13, 14, 15	6, 17, 18
2 Community Relations	1, 4, 5	3, 8, 11	15	17, 18
3 PM Admin. Support	1	8, 9	4, 5, 11, 15	
4 Public Assistance	15	1, 2, 5, 11	6, 8	
5 Community Activities	1, 2, 4	15	8, 11	
6 Registration		7	8	
7 Traffic		15	8	
8 Operations Office	9	1, 15, 13, 14	12, 16	
9 OPS Admin.	8	3	15	
10 Liaison		1, 3, 8	11, 13, 15	
11 Community Services		4, 8, 15	1, 5, 13	
12 Absentee Control	15	8, 13, 16	11	
13 Investigations	14	8	1	
14 Physical Security	13	8	1	
15 On-Duty Desk	4, 11	8, 16, 17	18	
16 Briefing/Training	17	15		
17 Lockers/Shower	16	15		
18 Operations Storage	17	15		1, 2

**C. CIRCULATION REQUIREMENTS** Using the activities described in Table 4-1 as typical, Table 4-2 indicates general visitor/staff circulation requirements for individual MP activities. Using the format illustrated in

Table 4-2, the local using service should identify for individual projects the major generators of internal circulation and those activities which get visitors at night as well as during normal duty hours.

Table 4-2: Circulation Requirements

Functional Activities	Daily Visitor Traffic Load			
	Heavy	Medium	Light	At Night
1 PM Office	•			•
2 Community Relations		•		
3 PM Admin. Support			•	
4 Public Assistance	•			
5 Community Activities		•		
6 Registration	•			
7 Traffic			•	•
8 Operations Office		•		•
9 OPS Admin.		•		
10 Liaison			•	
11 Community Services			•	
12 Absentee Control			•	
13 Investigations		•		•
14 Physical Security			•	
15 On-Duty Desk	•			•
16 Briefing/Training			•	
17 Lockers/Shower			•	
18 Operations Storage			•	

**d. FUNCTIONAL ORGANIZATION** The functional affinity expressed by the organizational characteristics, physical associations and circulation requirements of individual activities can be used to evaluate the effectiveness of existing conditions or the suitability of specific space organization principles. The functional characteristics generic to police activities provide the basis for grouping the various administrative and operational activities and general activity support areas into organizational components. Functional characteristics can also be used to establish specific function, flow and supervisory relationships between the general organizational components listed below and diagrammed in Figure 4-2.

**Zone 1 - Provost Marshal Office:** Includes those activities related to the direct support of the Office and the overall direction and management of law enforcement functions of the facility.

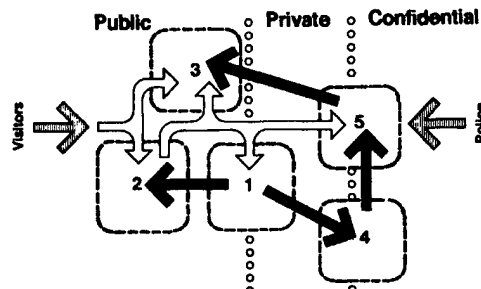
**Zone 2- General Reception and Information:** Includes activities related to the control and direction of visitor traffic.

**Zone 3- Registration and Traffic Services:** Includes those activities related to registration and/or licensing of vehicles, weapons, pets, etc.

**Zone 4- Operations Office:** Includes those activities oriented toward the management, supervision and support of its operational sub-sections.

**Zone 5- Operations Sections:** Includes those functional activities oriented toward the reception, processing and disposition of offenders; report preparation; patrol activity; Investigation activities; physical security; traffic operations; MP communication and informational activities; and special activities.

Figure 4-2 Functional Relationship Diagram



## 4-3

### Physical Characteristics

a. **GENERAL** Specific space organization principles must identify the physical characteristics appropriate to individual MP facilities. In identifying the appropriate physical characteristics, the using service must indicate the need for expansion and flexibility in functional activities, requirements for building and site location, building structure and the satisfaction of future development needs. The identification of appropriate physical characteristics for the entire facility will generally depend on the type of activities to be included in the project. Thus, it is necessary to identify the specific requirements and characteristics of individual administrative and operations activities. These activities generally correspond to the "Public" (administrative) and "Private" (operations) descriptions below.

(1) **Public Activities** Public activities generally include police community services, such as: community relations, including public information and assistance programs to develop public awareness, understanding and voluntary support for installation law enforcement and crime prevention programs, general MP administrative and police service functions, which compile data and provide informational assistance and guidance to Installation activities and units; and registration, traffic and liaison services, which include direct contact with local civilian counterpart agencies in addition to the general public. Public activities might require administrative support spaces, such as a large conference or meeting room, public lounge or records areas, etc.

(2) **Private Activities** Private activities are generally categorized as operations or on-duty activities associated with the principal responsibilities of a military police organization, law enforcement crime prevention, investigation and physical security. These activities include such special operations spaces as the MP Desk, Duty Officer and Duty Investigator suite. Prisoner/Offender Processing area and Patrol Activities, including briefing, training and on-duty reports preparation. Private activities might require general operations support spaces such as lockers, showers and break areas for both uniformed and non-uniformed military police personnel, interior and exterior operations storage areas for on-duty equipment and emergency fire arms.

b. **FACILITIES PLANNING CRITERIA** Actual building and site requirements will be based on a proper

organization of individual activities and general functional areas in accordance with the objectives stated above. In establishing individual space organization principles, every attempt should be made to apply facilities planning criteria consistent with overall military construction objectives. However, actual requirements may reflect the difference between the application of general DOD space allocation criteria and the development of specific functional requirements for essentially operational activities. In general, the facilities planning criteria for military police activities will allow the provision of functionally effective and operationally efficient facilities which are responsive to the unique requirements of the local using service. In order to accomplish this, the using service must provide information regarding the following facilities planning factors before developing specific space organization principles.

(1) **Facility Location** The effectiveness of the military police as a community service organization depends on operational relationships established between related functional activities, such as the CID and SJA, and the other activities that provide installation support. The local using service must identify the importance of these relationships in order to determine the proper location of military police facilities. Proper location will also depend on long-term organizational relationships and operational objectives of individual military police activities and on specific programs for the colocation and comprehensive development of related law enforcement, criminal investigation and criminal justice facilities.

(2) **Access Control** In all instances, whether for a single activity or for an entire facility, the control of public access is essential to maintaining the functional integrity of military police operations. It is, therefore, essential that the using service provide specific requirements for the separation of public and police activity dress and the control of visitor access. Requirements for accessibility should not conflict with on-going functional activities, whether administrative or operational in nature.

(3) **Functional Groupings** Special conditions or unusual planning criteria affecting the organization of functional activities must be identified by the using service. This information will be used to group activities according to functional and physical characteristics, establish a clear, efficient and distinct pattern of circulation, determine the need for flexibility in function and space, and identify areas requiring special mechanical or structural consideration.



**c. SITE AND BUILDING CHARACTERISTICS** The identification of appropriate site and building characteristics for specific projects depends on the functional characteristics of the individual activities included in the project and the way activities within the various functional zones are organized. The following principal site and building characteristics should be studied by the local using service in developing specific physical development and space organization principles.

**(1) Site Characteristics** Refer to the guidance contained in Figures 4-3, 4-4, 4-5, 4-6, and 4-7 in determining space organization principles related to location and site configuration. Individual projects require a comprehensive evaluation of the site and building constraints imposed by:

(a) The site development requirements related to the exterior operational needs (access, parking, secure storage, impoundment, guard mount, etc.). Partic-

ular attention must be given to identifying site elements peculiar to the individual military police activities and organizations.

(b) The compatibility of internal functional activity and external operational requirements with adjacent land use and physical development. Careful consideration of private and public activity requirements is essential.

(c) The requirements for site development flexibility and future expansion of major site and building elements.

(d) The site boundary and developable area limitations.

(e) The requirements for able-bodied and handicapped access (pedestrian and vehicular) on the part of visitors and staff.

(f) The projected requirements for organizational development, consolidation, colocation, etc.

Figure 4-3 Site Boundaries

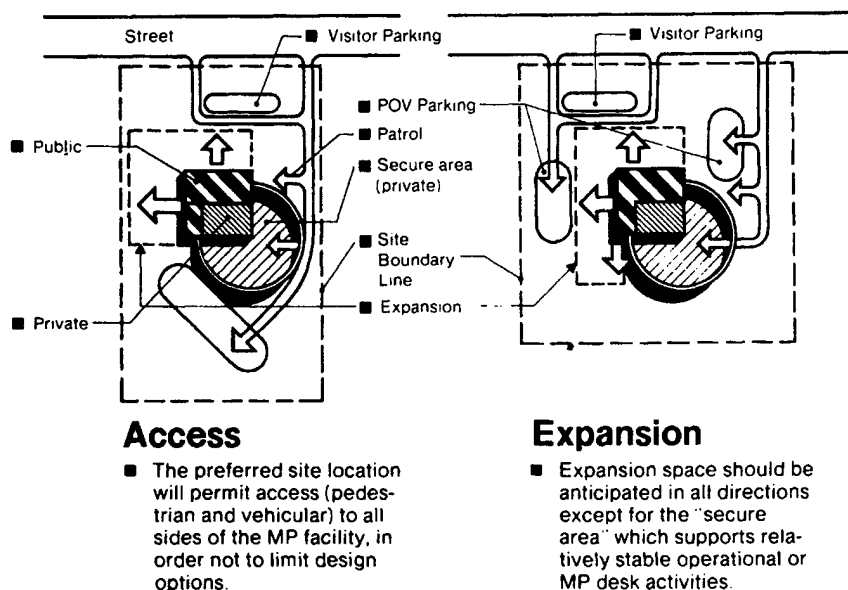
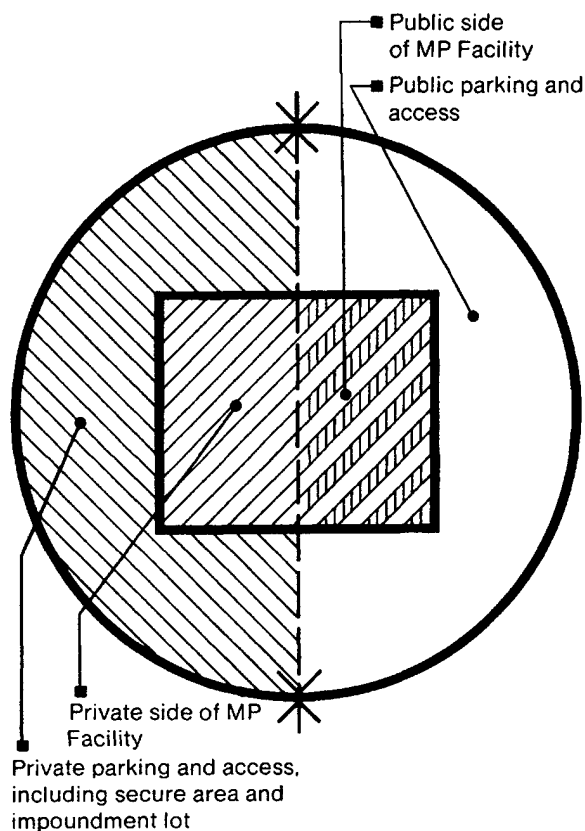


Figure 4-4 Public/Private Functional Areas



## Front (Public) vs. Back (Private)

- All MP facilities, regardless of size, have a basic need to be organized with a distinct public and private functional area.
- The public area creates the "Image" expressed to the military community by MP, and thus should be an architectural statement that is open, inviting and compatible with other service facilities on the base.
- The private area, because of its functional requirements for security and secrecy, will likely result in an external architectural expression that is more closed than open.

Figure 4-5 Location and Siting Considerations

## Site vs. Image

- An MP facility is best located in close proximity to other community service facilities, which are likely to be clustered with adjacent shared parking areas. This can be expected to result in a 360° visual exposure for the MP facility and an accompanying "Image" problem related to the "Private" side or 180° of the total.

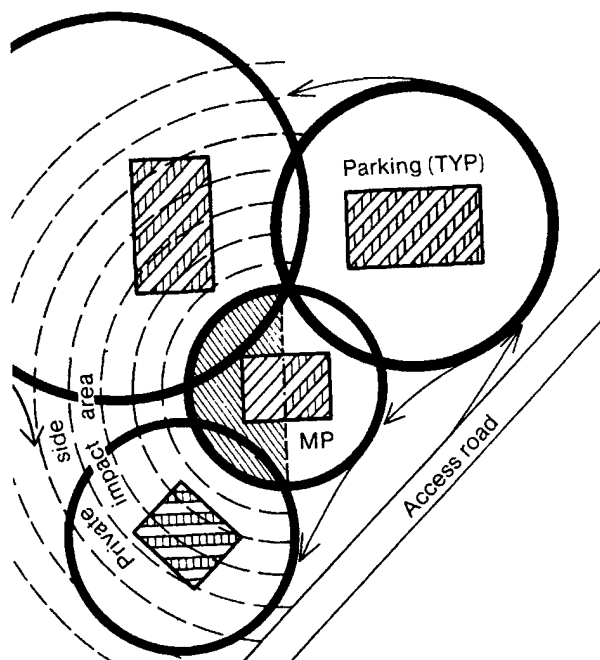
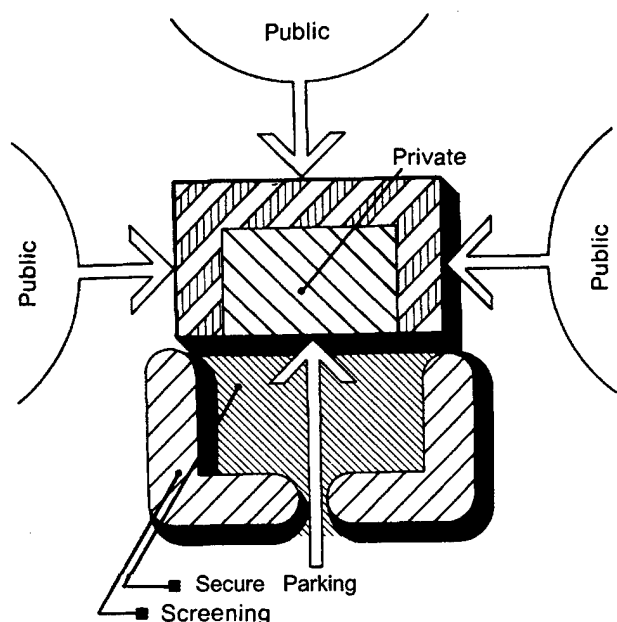


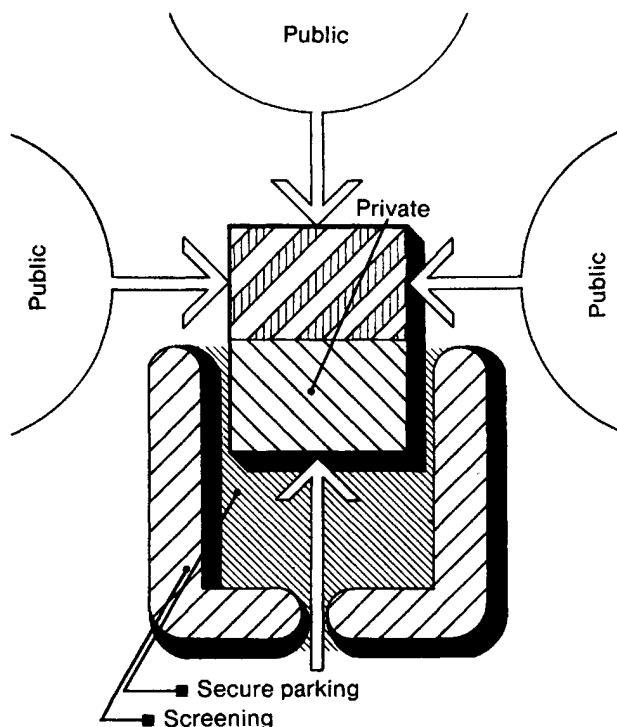
Figure 4-6 Location and Site Characteristics



### Direct Expression

- When the two sides of an MP facility are equally exposed to public view, it is desirable to provide some overlap of the necessary screening for secure parking. This will conceal the access to the private side of the building and soften the contrast between the public and private sides.

Figure 4-7 Location and Site Characteristics



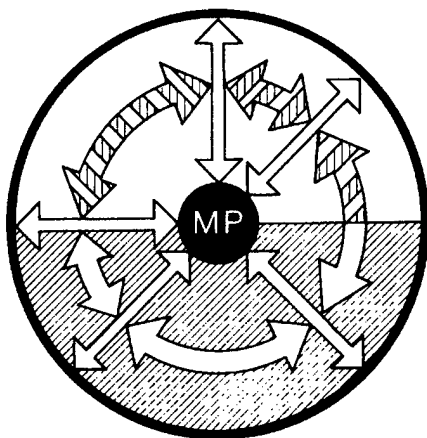
### Concealed Expression

- By the use of plan organization a more desirable ratio of exposed public side to private side may be achieved. Developing administrative functions along much of the building perimeter (where these spaces benefit from available natural light and the resulting exterior view is more open) minimizes required screening and minimizes a desirable image to the community.

(2) **Building Characteristics** Refer to the guidance contained in Figures 4-8, 4-9, 4-10 and 4-11 in determining space organization principles related to building characteristics. The local using service must identify the individual functional requirements of public and private activities which will influence the siting,

orientation arrangement and form of principal building elements. Thus, each military police organization should consider the space organization concepts described in the following illustrations in order to develop the most appropriate building characteristics.

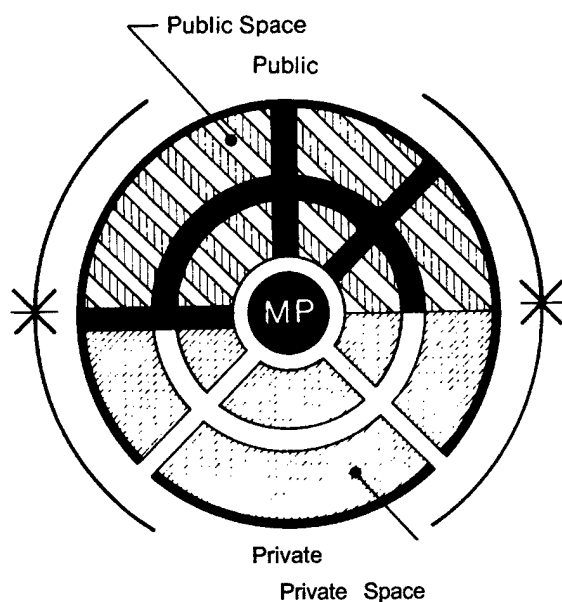
Figure 4-8 Building Characteristics



### Circulation Concept

- An abstract circulation diagram, for any MP facility regardless of size, would reveal a definite central core, which is the MP Desk and its related activities. Because it is the functional heart of the building, all internal circulation moves radially in and out from this area or laterally around it. Both the public and private side of the facility require varying degrees of adjacency to the core area.

Building 4-9 Building Characteristics



### Diagrammatic Floor Plan

- An idealized plan layout might be composed of 2 or 3 rings of spaces surrounding the central core, with functional requirements determining their proximity to the center. Circulation distances would be minimized by a series of radial and ring corridors. Public and private spaces would be separated as would patterns of movement.

Figure 4-10 Building Considerations

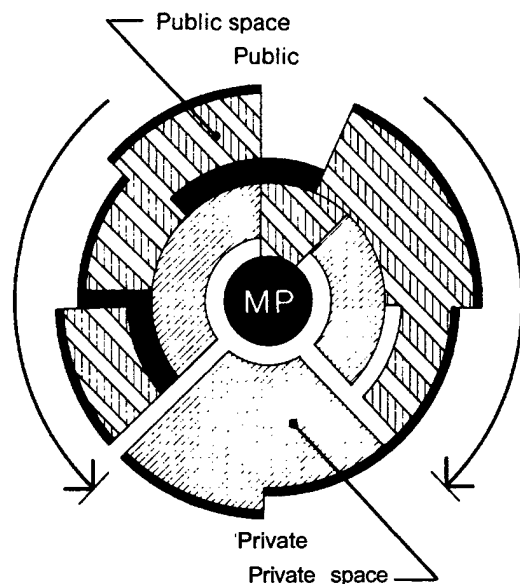
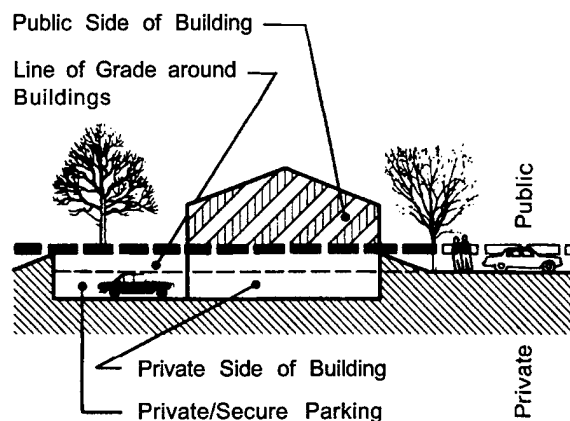


Figure 4-11 Building Considerations



## Programmatic Implications

- The purity of the idealized circular plan, and its related paths of circulation, begins to fade with the application of specific program requirements.
- Varying spatial needs, the effects of functional zoning, separation of plan components and key circulation effect major changes on the circular form.
- Additional changes occur from the process of organizing functional areas according to their needs for (1) proximity to the core (2) anticipated future growth requirements (3) outside awareness (4) privacy and protection.
- Another organizing force effecting change is the concern for image, public oriented functions are arranged along the perimeter, partially enveloping (and screening) private operational functions which benefit from the interior location.

## Concealed Expression

- As the alternative to "Direct Expression," the private side of the building can be partially or totally concealed by design, such as the development of two separate floor levels, with the use of berms, and grading around the building, the private side can be largely hidden, except for "secure parking" and access. These areas can also be concealed by similar sitework. The building image, with this approach, will be only public.

**d. REQUIREMENTS FOR FLEXIBILITY** Physical characteristics of flexibility must reflect the approved requirements for flexibility and growth in specific functional activities. Generally, the individual requirements for flexibility will vary in intensity and sophistication. The potential for actual implementation of provisions for flexibility will depend on the specific requirements of individual public and private activities and the special conditions and requirements involved in the development of organizational components. In general, the following should be considered:

**(1) Public Activities** Public activities usually require general office-type spaces and great flexibility. These requirements are related to the support required by installation activities as well as to changes in Individual law enforcement workloads. Physical characteristics involving provisions for spatial and functional flexibility of public activities should be established on the basis of an acceptable probability of change in the scale of operations of supported activities. The characteristics inherent in the need for flexibility are usually reflected by minimal requirements for permanently placed partitions and by an organization of site elements that avoids unnecessary constraints on the future arrangement of the building elements required by public activities.

**(2) Private Activities** Private activities of a critical operations nature and their functional support areas tend to remain relatively stable in terms of their physical characteristics, such spaces do not need to be physically flexible in order to respond to fluctuations in the support requirements at the installation level. Rather, they should reflect an emphasis on utilizing technological, organizational and equipment flexibility as well as on changes in the allocation and sophistication of programs, services and staffing arrangements to compensate for alterations in basic operational support requirements.

**(3) Special Conditions** The supervisory, support and service-oriented functions of various operations sections represent an exception to the general conditions governing the expansion of military police operations spaces. Although they are considered to be "private", operational-type activities, they closely resemble administrative-type activities in that they have physical and environmental requirements similar to general office spaces with the exception of special space requirements, such as those for interview, evidence, storage and meeting areas or for MP desk and prisoner processing and support areas, operations sections can benefit from the space flexibility provided for general office areas. The spatial divisions of such office areas depend on functional and operational peculiarities. For example, the investigative

team has become an accepted nucleus of staff or organization for MP investigations, physical security, absentee apprehension and traffic sections; a division of space which provides for shared, private or semi-private offices will best meet their functional requirements.

**(4) Special Requirements** Special requirements for design flexibility must be identified where the probability of future expansion or change is high, or where future increases in manpower and equipment authorizations have been approved. Since the scale and intensity of crime prevention and law enforcement programs are largely associated with the size and character of local military installation activities, change or expansion in military police requirements will depend to a great extent on change and expansion in support requirements, tactical, mission or population characteristics at the installation level. If anticipated changes at the installation level are likely to affect total MP operations, the individual level of design flexibility implied by such change must be identified and documented. Such documentation should include a reassessment of functional or staff organization requirements.

**e. REQUIREMENTS FOR EXPANSION** Requirements for expansion will determine the location of fixed position activity areas. These include critical operations areas, on-duty areas, operational storage facilities, and, where required, interior sources of natural light. In identifying space organization principles, the using service should consider the specific characteristics of expansion in terms of public and private activities and describe alternatives in terms of the following physical elements:

**(1) Relationship of organizational components**

**(2) Space requirements for supporting activities.** The expansion of the functional requirements for one or more primary areas may have a physical impact on the location and space requirements of activities which support essential functions.

**(3) Internal and external circulation patterns (major and minor corridor systems).**

**(4) Mechanical and structural systems.** Alternative studies should indicate the suitability of modular vs. random increments of expansion; systematic distribution of HVAC services vs. individual or direct unit supply.

**(5) Location of relatively fixed interior and exterior spaces.** Alternative studies should indicate the suitability of space allocations that avoid unnecessary impediments to expansion.

(6) **Interior and exterior sources of natural light and air.** Consider solar gain and heat loss from fenestration and indicate existing potentials for energy conservation.

#### **f. ALTERNATIVE FACILITY CONFIGURATIONS**

When considering site and building characteristics and requirements for expansion and flexibility, the using service should study a variety of building forms to ascertain their suitability to a particular scale and intensity of operation. Alternative building forms should be developed for individual project requirements, taking into account the basic functional characteristics of military police activities. The following should be considered:

(1) **Principal Characteristics** There are few functional activities within the military police organization that can maintain a consistently high level of individual mission effectiveness if they are isolated from interdependent or subordinate activities. Therefore, the principal characteristics of building size and the configuration of interior spaces should enhance the cohesive nature of military police operations.

(2) **Functional Integration** Functionally integrated military police facilities require close physical relationships between dependent operational activities on the private side of the facility. Thus, configurations of space (structural systems, etc.) that allow administrative and community service activities on the public side to interact with critical operational activities on the private side without prohibiting essential relationships will enhance the cohesive nature of military police activities. As an example, the core of space organization is comprised of the on-duty military police personnel and essential operational and supervisory activity areas. Intermediate areas include the military police staff areas that respond to incidental and routine requests for assistance as well as those which occupy general administrative or supervisory positions related to operational activities. These staff activity areas have a direct physical and functional relationship to the operational areas they supervise and the administrative activities they require for support.

(3) **Building Area** Since cohesive functional organization is essential to space organization, the physical characteristics imposed by building form must follow from this need. Therefore, the differences in building size in terms of floor area or required number of floors will vary in direct relationship to the physical limitations imposed by desirable functional adjacencies. These limitations will depend on the individual scale and intensity of operations and not directly or primarily on staff totals or the official organizational structure.

(4) **Building Structure** A single-story, cohesive organization of building structures represents a func-

tionally desirable and effective means of providing the specific functional requirements of military police activities. From the point of view of physical development, accomplishment of this desirable characteristic depends on a number of physical characteristics. The principal factor affecting the choice of building structure is the selection of a site with adequate development potential for expansion and the flexible arrangement of component activities. A multi-story facility would be appropriate where the development potential of a single-story structure is questionable or where alternative site evaluation determines that the most appropriate location in terms of essential external functional relationships has site limitations requiring a more concentrated form of development. Several forms and patterns for building structure should be studied in establishing an appropriate approach. Two building alternatives with schematic diagrams are provided below in Figure 4-12.

(5) **Future Requirements** The need for internal flexibility and the need for external expansion are the two principal aspects of future requirements that should be carefully considered in developing space organization principles. These and more specific concerns which might affect facility configurations in the future are discussed below. Also refer to Figure 4-13.

(a) **Internal Flexibility** Space organization principles emphasizing the need for internal flexibility will require the consolidation of compatible functional, physical and environmental requirements. Consideration should be given to concentrating on stable activities with a low potential for expansion, fixed requirements for function-specific operational space not amenable to change, open or general office environments and special public spaces. Relatively unconstrained spaces should be placed on the building perimeter at locations which are most liable to change. This should be done with the understanding that future space adaptations will depend on changes in staff size and sophistication or on internal space adjustments caused by the incremental expansion of operational areas. These adjustments will ordinarily move from more stable interior spaces outward toward general office spaces.

(b) **External Expansion** When identifying site-related principles for future development, consideration should be given to alternative configurations of various component activities. Emphasis should be placed on identifying future physical requirements and functional relationships. Expansion and location factors should be identified for such support facilities as visitor, administrative or operational parking, utility lines, mechanical equipment space and outside storage areas, and any other special space requirements essential to adequate site development.

Figure 4-12 Alternative Building Configurations

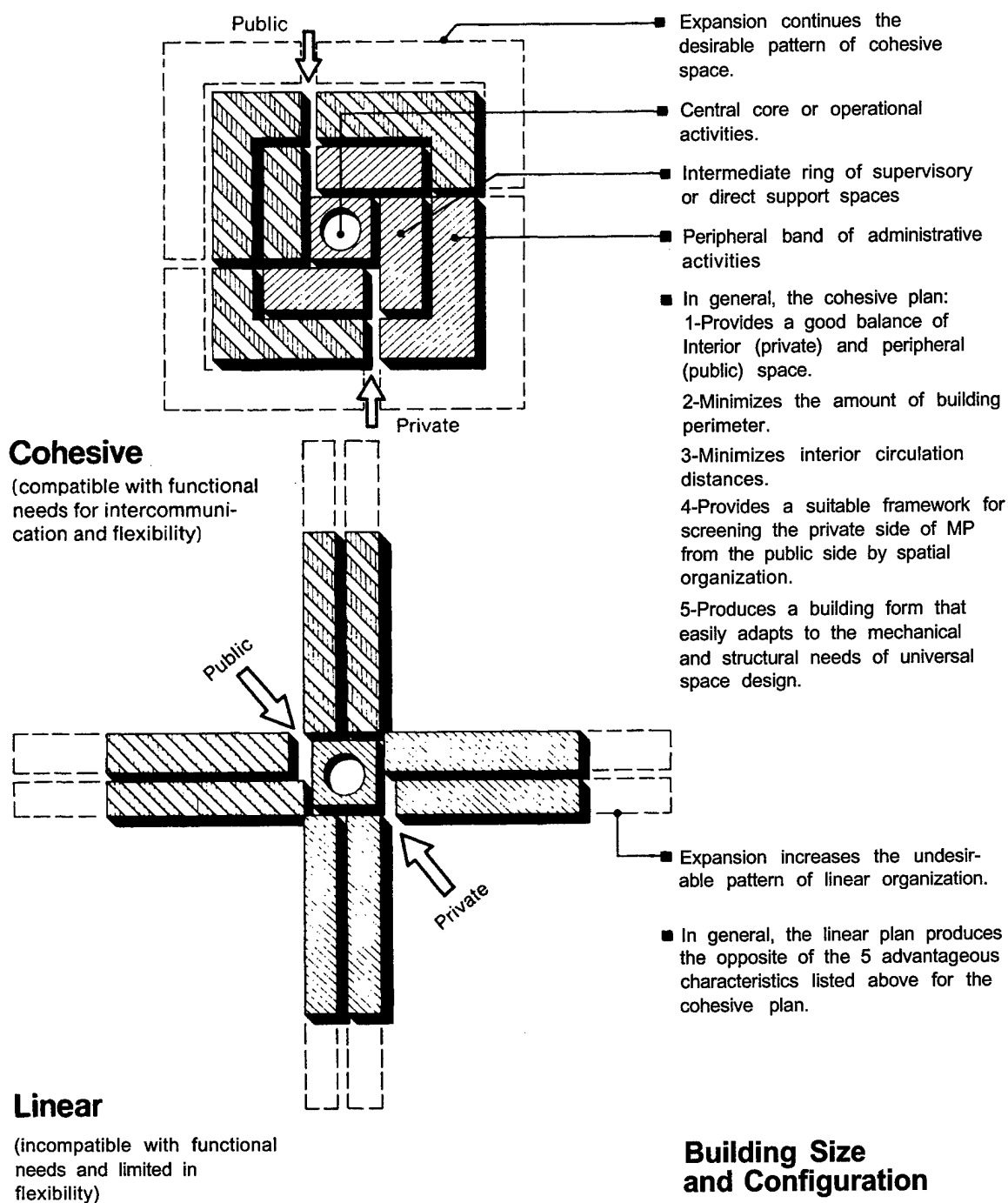
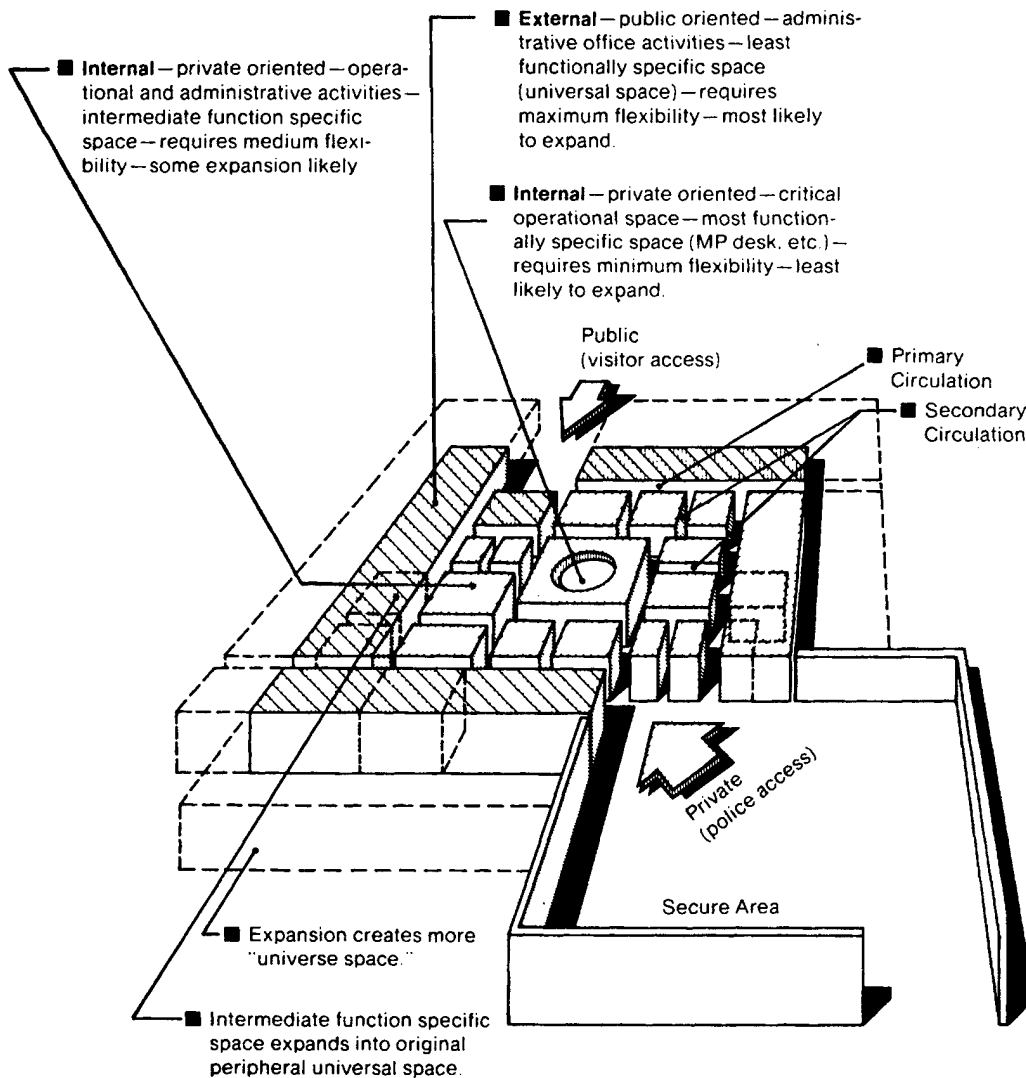




Figure 4-13 Requirements for Flexibility and Expansion



## 4-4 Space Planning

**a. FACTORS AFFECTING SPACE PLANNING** In order to assure a thorough determination of the physical and environmental requirements of individual functional activities and general functional areas (activity zones), the using service must evaluate the various factors affecting the planning and design of individual spaces. Reference should be made to the general planning and design guidance contained in Chapter 3. The following factors should be considered in planning individual spaces and in establishing the physical and environmental design requirements of individual functional activities.

- (1) Personnel and staff support requirements.
- (2) Special functional activity requirements.
- (3) General and specific space allocation criteria.
- (4) Functional and operational relationships of individual activities.
- (5) Operational and general equipment requirements.
- (6) Functional requirements of adjacent supporting or cooperating activity areas (including related functional activities).
- (7) Physical planning requirements involving accessibility related to.
  - (a) operations and administrative support personnel, internal and external communications, and routine work flow requirements.
  - (b) visitor/staff traffic control and separation requirements.
  - (c) special physical considerations, such as provisions for access by the handicapped, the emotionally distressed, persons at risk, or persons requiring police supervision or security.
- (8) Physical design requirements for such qualities of space as acoustic isolation; visual privacy; functional and operational security: outside awareness (interior and exterior), task, surface and material illumination (natural and artificial), operational relationships, span of control and functional support and comfort requirements for individual work stations, and building system, component material, finish and color requirements.
- (9) Environmental design requirements for such functional activity and habitability support facilities as mechanical and technical operations equipment and HVAC, electrical, and plumbing services

**b. IDENTIFYING PLANNING REQUIREMENTS** In identifying individual planning requirements, the using service must consider the functional, physical and environmental requirements that are generic to military

police facilities. For individual projects the using service must determine appropriate space needs from the analysis of operations and administrative support space requirements outlined in Chapters 2 and 3. The using service should review and evaluate for applicability relevant DOD construction criteria and military police functional criteria pertaining to generic categories of administrative, operational, service or support facilities, equipment and personnel requirements, or to specific repetitive activities. Differences between general physical planning criteria (particularly space allocation criteria) and the space needs of individual projects may occur where mission accomplishment takes precedent over more restrictive planning criteria. Individual planning requirements will be based on the following factors:

**(1) Basic Functional Objectives** The using service must meet the following basic functional objectives in developing individual planning requirements:

*(a) Maximum Efficiency* Maximum efficiency in space utilization must be achieved through the application of space-planning criteria and function-specific component space standards which identify like requirements for like functional activities.

*(b) Maintain Functional Effectiveness* Individual space-planning criteria and specific component activity standards must maintain the existing or projected functional effectiveness of activities essential to mission accomplishment.

*(c) Justify Special Requirements* Function-specific space-planning and component activity standards must establish justification for special physical and functional requirements and unique design characteristics.

**(2) Special Considerations** The gross area requirements for a particular scale of operation or staff composition, derived from authorization tables and minimum operating standards, may well exceed general space allocation criteria. This might occur in either one or both of the following requirements:

*(a) Net Functional Area* This will usually be where interview rooms, conference rooms or other unoccupied spaces are required.

*(b) Gross Building Space* This will usually be where the functional requirements of operations or administrative support activities are such that the typical gross space allocation is insufficient for functional effectiveness, and also where the total physical space requirements are greater than those corresponding to conventional ratios for personnel totals related to gross space occupied. For instance, 162 square feet per occupant as a basis for determining gross area requirements is, without exception, unacceptable for military police facilities.

**c. ESTABLISHING INDIVIDUAL SPACE REQUIREMENTS** The establishment of individual space requirements will require a detailed analysis of the operating, habitability and environmental support needs of specific functional activities. The functional area requirements of each space will generally be determined from an understanding of the staff, furniture, equipment and circulation space required by the activity. Appropriate allocations of space should be developed for repetitive functional areas which vary in number with the intensity of operational activities. Such functional areas as private offices, open clerical space, interview and conference rooms are repetitive in nature and require similar enclosures with varying qualities of separation. Space standards for individual activities are described in Section 4-5. Actual requirements will determine specific enclosure characteristics; however, for repetitive type activities, acoustic and/or visual privacy requirements are noted with other special requirements where these requirements are essential to achieving a generally accepted standard of effectiveness.

## 4-5 Individual Space Standards

**a. GENERAL** The functional activity standards which are illustrated should be reviewed in conjunction with the descriptions of individual space requirements. The illustrated standards are based on function-specific "optimum" space-planning criteria and are used for descriptive purposes only. Specific standards should be identified by the local using service. Unique standards should be based on and integrated with space organization principles that reflect mission-peculiar and location-specific requirements of a project.

**b. APPLICABILITY** The principal application of space standards is in determining detailed functional requirements. The application of the "optimum" space standards to existing functional areas also may prove to be a useful tool in evaluating the efficiency and effectiveness of existing space utilization. This use of space standards, particularly in evaluating the effects of existing conditions on mission-performance, may, consequently, underscore both the initial determination of project need and the identification of operational and functional deficits in many existing military police facilities.

**c. INDIVIDUAL FUNCTIONAL ACTIVITY STANDARDS** The general functional requirements and physical attributes of staff and activity areas typically included in the planning and design of military police facilities are discussed in subsections (1 through 5) below. As an additional planning aid, schematic room layouts have been developed to illustrate the detailed space, personnel, and furniture and equipment requirements of typical and repetitive activities. Table 4-3,

located at the end of this section, provides a checklist of considerations useful in identifying and evaluating the design requirements of special or unique functional activities. Room layouts for these activities are not provided since actual requirements will vary dramatically for individual projects.

**(1) Requirements for Private Space** The general functional requirements and physical attributes of private space are:

(a) As a minimum the Provost Marshal, Deputy Provost Marshal, Operations Officer and Sergeant Major, each require sufficient private space for working meetings with staff personnel and the public. Larger and more formal meetings are appropriately held in a separate administrative conference room equipped for effective briefings and display.

(b) Supervisors of the functional sections subordinate to the Operations Office frequently meet with small numbers of staff personnel and the public; at these meetings counseling and/or discussion of privileged information occurs. Privacy also affords a working environment and work space for these individuals to effectively accomplish the administrative tasks attendant to their supervisory, managerial and review responsibilities.

(c) The community services supervisor may handle the cases of juvenile offenders as well as become involved in other sensitive and delicate situations. It is essential that this space be provided a warm and comfortable environment for counseling and related activities. When the scope of activity warrants additional full-time personnel in this functional area, additional private space such as interview or office area should be provided.

(d) Investigative, traffic, physical security, absentee control and other operations oriented personnel should be provided private space in which to prepare and review reports and for storage of individual reference material.

(e) Investigative personnel may also require shared private functional support space for interviews and the preparation and review of detailed police reports and for storage of general reference material.

**(2) Requirements for Semi-Private Space** The general functional requirements and physical attributes of semi-private space are:

(a) Assistant supervisors in the Operations Office and in each functional section perform administrative duties requiring a degree of visual privacy that may be satisfied by partial-height screening. Visual privacy and acoustic isolation are only moderate considerations, not requiring complete isolation.

(b) Personnel performing general or routine duties in the operational sections require partial screening where adjacent to waiting areas. Auxiliary space for

files and reference material storage must be provided.

(c) Investigative personnel not performing confidential or sensitive functions may be given semi-private accommodations in open office areas by providing partial-height partitions in a location out of the way of public circulation.

**(3) Requirements for Open Office Space** The general functional requirements and physical attributes of open office space are:

(a) Supervisory military police and civilian personnel routinely review, instruct or correct staff during short meetings at their desks. This activity normally requires a side chair. More frequent and larger meetings will require additional chairs.

(b) Reports-processing clerks and others who prepare repetitive forms and whose work involves the use of MTST equipment are assigned space allocations that can support a more intensive mechanical/clerical activity.

(c) Clerk/typists require typewriter space as well as desk space for surface and storage.

(d) Civilian clerks and military police personnel who require only desk and chair work stations are assigned typical clerical space allocations.

**(4) Requirements for Meeting/Interviewing Space** The general functional requirements and physical attributes of meeting and interviewing space are:

(a) A room seating from 16 to 24, classroom style, in tablet-arm chairs, is required in the MP patrol area for briefing and training purposes. It should possess resources for projection, many displays, chalkboards and similar teaching/briefing aids.

(b) A meeting room is required for use by the provost marshal in meeting with his staff and the public, military and civilian. A conference room accommodating up to 12 people and equipped similarly to the patrol area briefing room should be allocated to the main lobby area with easy access to the public and the provost marshal's office.

(c) MP patrol personnel routinely prepare and review reports throughout and following their tour of duty. A report-writing room near the MP desk, equipped with writing carrels to afford visual privacy, is required.

(d) MP investigators, traffic accident investigators and uniform patrol personnel must have small interview rooms available for interview purposes. Rooms must be large enough to accommodate a small desk (or table), several chairs, and afford complete acoustical privacy.

(e) Interview space, public waiting areas, and the reports-writing and police lobby spaces usually sur-

round the on-duty operations area. The communications room, MP desk area, the duty office, and the duty investigator's room must be fireproofed for a two-hour rating. The on-duty operations area functions as a 24-hour police services center. This area normally requires facilities for a desk sergeant, administrative assistant (desk clerk), radio and telephone operator, a possible electronic communications specialist (input out-put operator), duty officer and duty investigator; and specially designed spaces for MP desk operations, communications equipment, and for the temporary storage of weapons for on-duty and transient personnel, evidence and found property.

(f) All conference, meeting and interview rooms, and all administrative support and operations activity areas likely to be interior spaces should be well ventilated mechanically, or cooled where the climate requires, and provided with direct or indirect light where personnel positions require full-time occupancy.

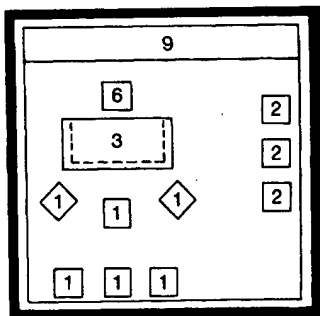
**(5) Special Operations Space** A number of special operations spaces are required from which the on-duty operations area can be assembled. These spaces are generally referred to as operations components and include: a military police reception counter, usually placed at floor level on the public lobby side of the desk area; raised floor areas for MP desk operations/communications modules; and holding, detention and prisoner-processing areas and supervised waiting and other on-duty spaces of various sizes and functions.

**(6) Space Allocation Standards** Space allocation standards are provided on the following pages. The standards illustrate "optimum" room layouts which should be considered in establishing functional requirements for individual military police activities and organizations. Since the space standards are 'optimum,' the actual layout will depend on the general functional needs of specific MP activities. The spatial, personnel, and furniture and equipment requirements illustrated in each space standard, however, will be typical for a wide range of general operational intensities (small, medium and large MP facilities). Space standards can be usefully applied to a variety of staffing levels, as in the case of open office standards and private and semi-private administrative support spaces. The nature of functional requirements in operations areas requires that a careful analysis of local requirements be made before standards are applied. For this reason, operations areas have been broken down into basic components, which can be readily adapted to local requirements.

## Space Allocation Standards

### EXAMPLE ROOM LAYOUTS

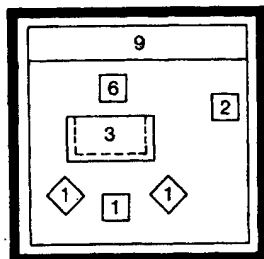
#### (1) PRIVATE SPACE



- (a) **Standard A** 225 Sq. Ft.  
**Provost Marshal** 300 Sq. Ft.  
450 Sq. Ft.

#### Functional Requirements:

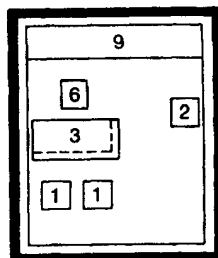
Acoustic Isolation (Door)  
Visual Isolation (Full Height Walls)  
Acoustical Wall and Floor Treatment



- (b) **Standard B** 144 Sq. Ft.  
**Deputy Provost** 225 Sq. Ft.  
300 Sq. Ft.

#### Functional Requirements:

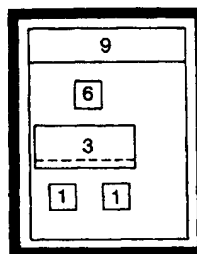
Acoustic Isolation (Door)  
Visual Isolation (Full Height Walls)  
Acoustical Wall and Floor Treatment



- (c) **Standard C** 120 Sq. Ft.  
**Sergeant Major**

#### Functional Requirements:

Acoustic Isolation (Door)  
Visual Isolation (Full Height Walls)  
Acoustical Wall and Floor Treatment

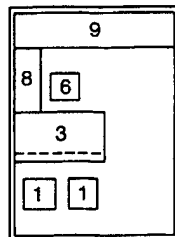


- (d) **Standard D** 108 Sq. Ft.

#### Functional Requirements:

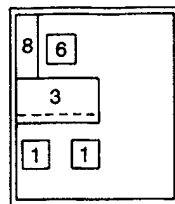
Acoustic Isolation (Door)  
Visual Isolation (Full Height Walls)  
Acoustical Wall and Floor Treatment

(2) SEMI-PRIVATE SPACE



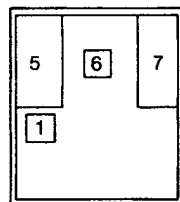
- (a) **Standard E** 108 Sq. Ft.  
**E-PHP**  
**E-SH-PHP**

**Functional Requirements:**  
Partial Acoustic Isolation (Door)  
Partial Height Partitions (Visual Privacy)  
Acoustical Wall and Floor Treatment



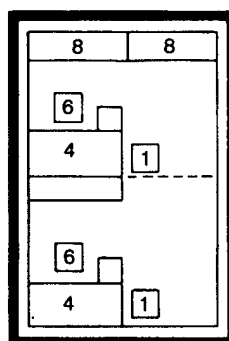
- (b) **Standard F** 90 Sq. Ft.  
**F-PHP**  
**F-SH-PHP**

**Functional Requirements:**  
Partial Acoustic Isolation (Door)  
Partial Height Partitions (Visual Privacy)  
Acoustical Wall and Floor Treatment



- (c) **Standard G** 90 Sq. Ft.  
**G-PHP**  
**G-SH-PHP**

**Functional Requirements:**  
Partial Acoustic Isolation  
Partial Height Partitions (Visual Privacy)  
Acoustical Wall and Floor Treatment



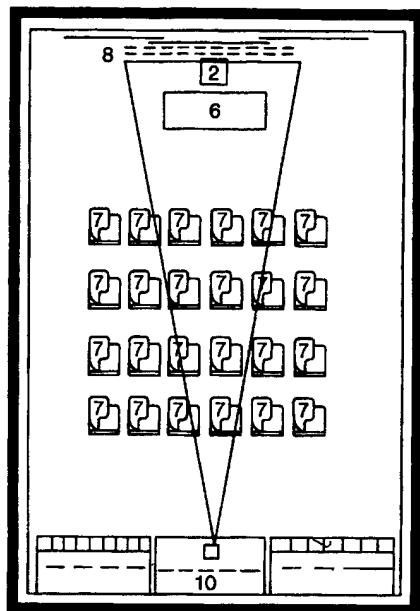
- (d) **Standard H** 80 Sq. Ft.

**Functional Requirements:**  
Shared Acoustic Isolation  
Shared Visual Isolation (Full Height Walls)  
Partial Visual Privacy (Shelf Storage)  
Acoustical Wall and Floor Treatment

**Standard Key:**

- |                  |                       |
|------------------|-----------------------|
| 1. Arm Chair     | 6. Table              |
| 2. Side Chair    | 7. Chair/Writing Arm  |
| 3. Extended Desk | 8. Projection Screen  |
| 4. Typing Desk   | 9. Files Storage      |
| 5. Standard Desk | 10. Equipment Storage |

**(3) MEETINGS/INTERVIEW SPACE**

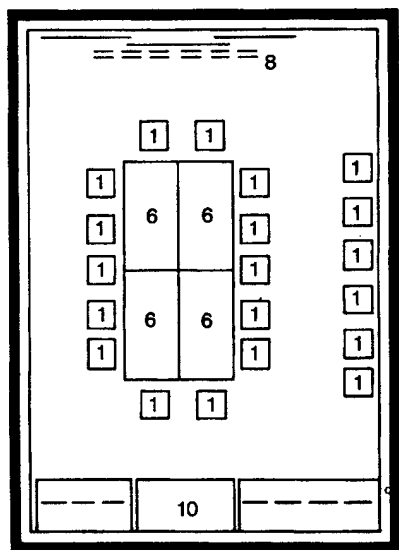


**(a) Conference Room A**

600 Sq. Ft.

**Functional Requirements:**

- Acoustic Isolation (Door)
- Visual Isolation (Full Height Walls)
- Acoustical Wall and Floor Treatment

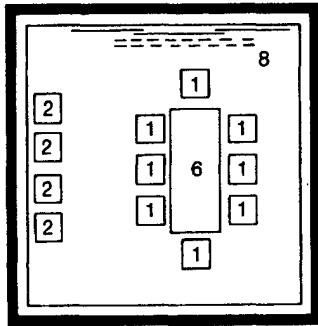


**(b) Conference Room B**

513 Sq. Ft.

**Functional Requirements:**

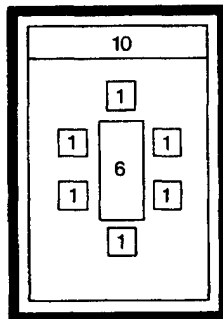
- Acoustic Isolation (Door)
- Visual Isolation (Full Height Walls)
- Acoustical Wall and Floor Treatment



(c) **Conference Room C** 225 Sq. Ft.

**Functional Requirements:**

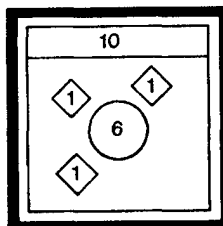
Acoustic Isolation (Door)  
Visual Isolation (Full Height Walls)  
Acoustical Wall and Floor Treatment



(d) **Interview Room A** 150 Sq. Ft.

**Functional Requirements:**

Acoustic Isolation (Door)  
Visual Isolation (Full Height Walls)  
Acoustical Wall and Floor Treatment



(e) **Interview Room B** 100 Sq. Ft.

**Functional Requirements:**

Acoustic Isolation (Door)  
Visual Isolation (Full Height Walls)  
Acoustical Wall and Floor Treatment



## 4-6

### Development Of Organizational Components

**a. GENERAL** The using service should organize individual activities into the principal organizational components of a military police organization. This will simplify the complex MP organization by identifying manageable increments of space personnel, equipment and functions. The development of organizational components and the application of space organization principles will allow individual activities to be coordinated on the basis of similar and related functional requirements.

**b. SPACE ORGANIZATION PRINCIPLES** The using service must develop for individual projects the specific space organization principles by which components will be developed. The guidance contained in earlier sections of this chapter and in paragraphs that follow below will assist using service personnel in identifying generic organizational components. The application of this guidance will depend on project-specific requirements for physical development established by pre-planning decisions in identifying the space organization principles or organizational components, the following factors must be considered.

**(1) Planning Factors** The application of planning and design criteria and the corresponding effectiveness of project-specific guidance will depend on the individual planning factors identified by the using service, i.e., mission-peculiar and location-specific requirements, existing and projected functional or operational requirements, and special building and site design considerations.

**(2) Design Evaluation** Whether the objective is new construction or the rehabilitation/conversion of existing facilities, overall project planning and facility design guidance will be used to evaluate space organization concepts as they relate to specific criteria for site development, individual environmental architectural and interior space designs.

**c. CATEGORIES OF SPACE** In general project specific planning and design guidance should be established for the categories of space listed below. Specific guidance will depend on the functional requirements of individual activities and on the planning and design requirements of general functional areas (zones)

**(1) Individual Activity Spaces** Identify organizational, operational physical and environmental requirements as they relate to personnel equipment and functions

- (a) General Administrative Office Space
- (b) General Operational Office Space
- (c) Special Purpose or Critical Operations Spaces

on-duty operations areas, detention facilities, conference rooms briefing rooms, classified material and evidence storage and operational supplies and support services.

(d) Public Spaces lobby, lounge and reception areas, waiting areas, public meeting areas (conference rooms), horizontal and vertical circulation toilet rooms.

(2) Clusters, Groups or Zones (general area and special support spaces for branches).

(3) Floor Levels (image, identification, aesthetic and functional coordination).

(4) Building (total Image, operational objectives, physical and environmental requirements and functional integration).

(5) Site (operational and administrative identification)

#### **d. PLANNING AND DESIGN CHARACTERISTICS**

The following planning factors and related design characteristics are important in evaluating the physical and environmental requirements of individual activities.

**(1) Functional Objectives** The development of organizational components should reflect an attempt to satisfy the following operational activity objectives generic to individual law enforcement facilities.

(a) The development of a functionally integrated and operationally responsive facility.

(b) The maintenance of functional integrity within major activity components.

(c) The ability to separate and control circulation within and between major activity components.

(d) The definition of a clear order of movement from public to private to confidential activities.

(e) The ability to provide special environmental and climatic conditions for critical operational activities with a minimum of cost and effort.

(f) The flexibility to expand operations or change enforcement techniques without major interruption in activities.

**(2) Functional Organization** The development or organizational components should integrate and coordinate the following essential elements.

- (a) individual activities
- (b) functional requirements
- (c) work space standards
- (d) physical relationships
- (e) circulation
- (f) support facilities

**(3) Physical Characteristics** During the development of organizational components, the physical characteristics discussed in Section 4-3 should be considered. The design elements outlined below are developed in detail under 4-6e(1) through 4-6e(3) requirements for spaces. Each of these elements should be considered in conjunction with the requirement; of specific organizational components.

- (a) flexibility
- (b) illumination
- (c) security
- (d) acoustics
- (e) aesthetics
- (f) HVAC requirements

**(4) Building Components** The following building components, also developed in detail in Section 4-6e(1) through 4-6e(3) should be used to establish a proper organization of space which achieves the project's primary functional objectives.

- (a) planning and building modules
- (b) building materials
- (c) enclosures and partition systems
- (d) structural systems
- (e) power and communication systems
- (f) HVAC systems

**e. REQUIREMENTS FOR ACTIVITY SPACES** The following design considerations represent the basic requirements for the planning and design of individual activity spaces. By analyzing general physical attributes and building components in terms of the functional requirements of individual activities, using service and design agency personnel will be able to establish project specific planning and design criteria. Detailed design factors are provided for the following categories of space.

**(1) General Administrative Office Space**

**(a) Physical Attributes**

**Flexibility** - Maximum - Ceiling height partitions limited to supervisors requiring visual and/or acoustic privacy. Low space dividers and open desk areas as required by tasks and function.

**Illumination** - Uniform illumination level per current I.E.S. standards Natural light is preferred for routine tasks.

**Acoustics** - Acoustical ceilings; sound-absorptive space dividers or wall treatment carpeting if large open office areas are provided.

**Aesthetics** Coordinate colors to provide a wide range of flexibility for walls space dividers, office equipment, carpet, so that changes in layout maintain the integrity of aesthetic concept; particularly important for interior space.

**Comfort** Heating and air conditioning (If authorized in DOD Construction Criteria Manual 4270.1-M) controlled to maintain comfort conditions.

**(b) Building Components**

**Module** - Building module should reflect planning module. However, it should be noted that many building sub-system components utilize a 2 foot, 4 foot or 5 foot module as a standard. Special or non-standard modules should be studied for their effect on costs as well as on efficient space utilization.

**Structural** - Central file areas, vaults and unusually heavy equipment will require higher live load capacity of floor structure.

**Enclosures** - Total area to be enclosed by exterior walls or interior partitions to the underside of structure above interior partitions should be of semi-fixed type (i.e., gypsum board with steel studs), fire-rated as required. Ceiling height partitions within the space should be modular, relocatable type. Acoustical ceilings to be suspended, exposed grid, lay-in type.

**Lighting** - Lighting by recessed fluorescent fixtures with flexible connections in areas where full height partitions are contemplated to allow for relocation as required

**Power and Communication** - Underfloor ducted distribution system for electrical power and telephone to enhance flexibility to task support sub-systems for highly and/or technology-intensive activities, for large areas only.

**HVAC** - Heating and air conditioning through overhead supply with supplemental heating at exterior walls, if required. Zones for uniform comfort conditions in areas where ceiling height partitions are likely to change, use flexible connections to diffusers.

**(2) General Operational Office Space**

**(a) Physical Attributes**

**Flexibility** - Not subject to frequent changes, therefore, need for flexibility is minimized Functional activity assignment reflects special environments

**Illumination** - Illumination levels appropriate for the specialized task performed.

**Security** - Security to conform to current regulations pertaining to particular use.

**Acoustics** - Acoustical treatment required for all spaces.

**Aesthetics** - Because of more stable space allocations, stronger colors can be used, these should be coordinated with other spaces so as to produce a unified facility. Special finishes and materials used as appropriate.

**Comfort** - Essential requirements for heating and air conditioning in personnel spaces to be controlled for conditions. Controlled conditions as required for other equipment and special spaces.

**(b) Building Components**

**Module** - For building module, refer to requirements for flexibility.

*Enclosures* - Less frequent changes can be anticipated. Therefore, semi-fixed or permanent partitions are appropriate (see requirements for flexibility). Use carpeting and acoustical ceilings of suspended, exposed grid, lay-in type or accessible, concealed spline, where appropriate, to enhance appearance and reduce ambient noise levels.

*Lighting* - Recessed fluorescent where exposed grid ceilings occur. Special lighting is required in critical operations areas (dimming required) and in other special purpose areas. The use of direct task lighting should be considered.

*Power and Communication* - Electric power and telephone outlets generally located in partitions.

*HVAC* - Heating and air conditioning for personnel areas (see requirements for flexibility). In special areas, such as communications and automated rooms, controlled temperature and humidity are required. Separate systems should be utilized. Raised floor should be installed for both air distribution and runs to supply necessary services for equipment.

*Special Components* - Special requirements exist for an automatic emergency source or power for critical communications, surveillance security systems using monitoring devices (CCTV I D alarms, etc.) linked to the MP desk and for other special equipment or functional areas where power outage would jeopardize mission-effectiveness.

### **(3) Special Purpose or Critical Operations Spaces**

#### *(a) Physical Attributes*

*Flexibility* - These spaces should be considered as the most static and not subject to frequent change. Thus, the need for flexibility is minimal.

*Illumination* - Illumination levels appropriate to the task and function.

*Security* - Special personnel security provisions, such as bullet-proof glass enclosures or panels (used to enclose MP desk), should be considered for all areas where the continuity of police operations may be threatened by overt acts of violence.

*Acoustic* - Special acoustical treatment required for critical interview rooms, briefing rooms, and prisoner/offender processing areas. All other areas except D-cells require standard acoustical treatment.

*Aesthetics* - Special treatment for conference and lecture rooms to enhance aesthetic quality.

*Comfort* - Heating and air conditioning controlled to maintain comfort conditions. Some special support service areas may require controlled conditions.

#### *(b) Building Components*

*Module* - Module shall conform to building module (see requirements for flexibility).

*Structural* - Structural to be designed to support the live load required by code of each special use space.

*Enclosures* - Partitions around these spaces should continue to underside of structure above consideration must be given to the use of increased sound transmission-rated partitions. Special purpose arms and equipment storage vaults should be of fire-rated construction, consistent with current regulations. Acoustical ceiling in public meeting, conference, and briefing/training rooms should be limited access, concealed type.

*Lighting* - Lighting in operations, conference, briefing and training rooms should be fluorescent, capable of dimming.

*Power and Communication* - Electrical and telephone requirements to be determined by the unique functions of each space.

*HVAC* - Heating and ventilating systems should have sound traps on both supply and return ducts in interview, interrogation, conference and briefing/training rooms if confidential or damaging information is usually disseminated. Systems for personnel services (toilets, lockers and showers) and lounge areas should provide for 100% exhaust so as not to recirculate odors throughout the facility.

### **(4) Public Spaces**

#### *(a) Physical Attributes*

*Flexibility* - These are the most static spaces in the facility, with the possible exception of corridors, and are not susceptible to frequent change although they possess reserved space for future internal expansion of locked-in operational space.

*Illumination* - Illumination levels per current I.E.S. standards, with the exception of lobby, where special treatment is appropriate.

*Security* - Security of exterior doors and entire internal circulation system should be given detailed consideration and review, particularly in sensitive areas. To be generally accomplished by CCTV monitoring.

*Acoustics* - Acoustical treatment required for all spaces except stairs. Special acoustical considerations should be given to mechanical equipment rooms to prevent adverse noise penetration to adjacent spaces and to interview rooms to avoid high levels of ambient noise.

*Comfort* - Heating and air conditioning (see requirements for flexibility).

#### *(b) Building Components*

*Module* - The established building module should obtain.

*Structural* - Heavier live loads are required for these spaces and should be reflected in the structural design.

*Enclosures* - All spaces to be enclosed to the underside of above structural floor with fixed partition of masonry.

**Lighting** - Lighting to be generally recessed fluorescent except in Lobby and waiting areas, where special treatment is appropriate. Emergency lighting to be provided for all corridors, stairs and places of assembly.

**Power and Communication** - Power for general maintenance equipment provided in partitions. Consider public telephones in lobby and private waiting area at operational side of MP desk.

**HVAC** - Heating and air conditioning through overhead supply system with supplemental heating at exterior walls, if required. Consider non-air conditioning of stairs and toilet rooms.

**Safety** - With the exception of the corridor partitions, which should be fire-rated and semi-fixed, see requirements for flexibility.

**f. REQUIREMENTS FOR CLUSTERS, GROUPS OR ZONES** Primary consideration should be given to the appropriate integration of building components and physical environments. Note that initially individual functional activity areas responding to stated physical attributes and environmental requirements will be clustered or grouped according to compatible characteristics, which allow similar functions and environments to be in close proximity, dissimilar ones, remote. Special consideration must be given, however, to those dissimilar work spaces or operational activities that require an essential adjacency. The requirements for building environment and components must be analyzed in terms of their cost-effectiveness and their impact on space flexibility. Clusters, groups or zones, although they may contain activities with different space requirements or functions, should maintain a degree of both environmental and component flexibility to allow for changes in the internal space allocations of component activities or larger planning units.

**g. FACILITY AND SITE DEVELOPMENT** Unusual design factors affecting building environments and components should be considered when specific mission-peculiar requirements are provided by the user. Sections 2 and 3 provide basic guidance and criteria that must govern most conditions.

## **4-7**

### **Example Components**

**a. GENERAL** The preceding guidance for developing organizational components has been used to plan and organize the individual activity areas contained in example space programs. The guidance exemplified in administrative and operational activity components is based on planning and design criteria contained in Chapter 3 and on the space organization principles presented in this chapter. While the actual size and function of individual activities will depend on the require-

ments of a given location and a particular operating situation, the physical planning and design requirements are similar for most types of military police activities. For example, the physical relationships of components for a large-scale activity are generally similar to those for medium- and small-scale component activities. Similarly, the actual level of sophistication in personnel and equipment is derived from local adjustment of generalized work station/operating requirements while functional relationships remain consistent. Thus, to be useful, the planning and design guidance presented in this section demonstrates the application of generic concepts of space organization as well as generalized individual space criteria, for a variety of typical organizations. In developing specific space organization and component activity layouts for individual projects, the using service should refer to the guidance contained in the following paragraphs and in other sections of the Design Guide, particularly the guidance for the development of existing facilities which is contained in Chapter 5.

#### **b. ADMINISTRATIVE ACTIVITY COMPONENTS**

This component activity area contains the individual activity spaces and general functional areas typically associated with provost marshal activities and military police services: provost marshal's office, public and special activities, and registration/traffic services. These areas correspond to Zones 1, 2 and 3 respectively. The level of staffing sophistication and the scale of intensity of military police operations shown in the following hypothetical space programs exemplify the general planning and design considerations required for large facilities serving on-post populations exceeding 20,000 military and civilian personnel in order to facilitate comparison between the individual activity relationships of a specific military police organization and the general scale of activity and staffing levels presented in the examples reference should be made to the diagram of generic activity zones provided under the guidance for functional organization contained in paragraph 4-2d, and to project specific concepts related to space organization. Reference should also be made to the illustrated examples of various scales of operation contained in Chapter 6 in order to establish local applicability of planning and design guidance presented in this section. The following example illustrates how to layout administrative activities and demonstrates the application of general planning and design criteria and space organization principles. Example designs reflect the following considerations.

**(1) Functional Character** Regardless of the scale of operations, and the size of space requirements, administrative activity areas should be arranged so that they will not interrupt or obstruct staff access to operational activities, and so that public access to military police services will not conflict or otherwise interfere with internal administrative functions. The

functional character of administrative activities requires that from the point of public entry, visitor circulation should be personally directed or directed by signage either to the provost marshal office or to the public side of the MP Desk for further assistance, without unnecessary contact with other military police activities. While access to Zone 3 activities is open, the MP Desk may restrict further public circulation to Zone 4 activities. Where this traffic is frequent, corridor doors may be used to control circulation; these doors may be equipped with automatic opening and closing devices.

**(2) Physical Character** The hypothetical programs for administrative component activities establish the scope of physical and environmental requirements for Zone 1, 2 and 3. The physical relationships of individual spaces required by the characteristics of administrative activity and by the desire to create a cohesive organization of space suggest a need for extensive building perimeter. This requirement usually leads to a linear building; however, by providing interior natural light and by using interior courts and skylights, the development of a more compact building form can be achieved. This approach is particularly appropriate in moderate and extreme climates. It allows solar gain from increased fenestration, can be adequately modified by other than mechanical means, and provides a ratio of building perimeter to total building space that is beneficially low. Small interior courts with windows located to avoid direct southern exposure will reduce and may eliminate the need for solar screening.

**(3) Components Relationships** Considering the scale of operations as well as the physical and functional relationships that administrative components have to other component activities, space organization concepts should emphasize a concise and cohesive organization of functional activities. In most cases, a pavilion type arrangement of components will not be suitable since its inherent character tends to isolate components. In a low intensity space configuration, where the staffing pattern and level of sophistication reflect the more direct characteristics of a simplified and concentrated organizational structure, component relationships should be as direct as possible. For medium intensity activities, component relationships can be somewhat more extended. Large scale activities may, of necessity, require more separation of function than either low or medium scales of operation. Compatible administrative activities should be made between functional activities and zones at the subordinate element level. This gradual consolidation of compatible activities and a decrease in physical articulation and organizational sophistication is reflected in the illustrated examples contained in Chapter 6.

**c. OPERATIONAL ACTIVITY COMPONENTS** The concept design for operational activity components developed in this section indicates basic planning and design guidance for operational activities. This guidance illustrates space organization principles that interrelate and, where requirements are compatible, combine individual functional activities into cohesive operational components. The hypothetical programs and the intensity of operational activity shown responds to the functional requirements which might be typical of military police facilities serving large installations. The concept designs also exemplify generic physical relationships applicable to a variety of operational intensities.

**(1) Functional Character** The typical functional requirements for activities located in Zones 4 and 5 involve the supervision and execution of primary military police functions. The functional character of Zone 4 activities can be described as administrative in nature, and one best provided for in a general office type setting. The need for privacy and visual and acoustic isolation in most operations sections is attributable to the private nature of military police operations. The functional character of Zone 5 activities, especially on-duty activities, is reflected in an arrangement of space that allows the operational side of the MP Desk area to be in full visual and physical control of visitor access and general circulation in and around the entire facility. This is a basic security and service requirement that can be met in a number of ways depending on the scale of operations staffing patterns, and personnel compositions. To stabilize basic security requirements, the communications room, staffed on a 24-hour basis with stationary responsibilities, should be consistently located and oriented toward the public access areas. This is so that quick and continuous response to any serious incident can be directly provided by the MP Desk. During normal duty-hours the public side of the MP Desk controls visitor circulations and where need be can direct visitors to a private waiting room closer to operational activities. Information and reports can be taken by desk personnel in relative security while maintaining their primary orientation toward the police entrance and lobby and also toward the prisoner-processing area CRT monitors will typically provide critical back-up security surveillance throughout the building, providing the opportunity to move prisoner/offender detention facilities away from the main circulation and activity areas which are directly adjacent to the desk area. During normal duty-hours, physical surveillance should be the responsibility of staff members who process, confine or who are otherwise specifically concerned with the custody of detainees. An absentee control of Special investigation (controlled substances) Team, whose routine workload involves frequent contact with offenders, is a likely candidate for this responsibility. The example design shows a typical allocation of space for such a team.

(2) **Physical character** The establishment of specific physical requirements for operational activity components should be based on a thorough analysis of the functional needs of a particular intensity of operation. The required level of sophistication in personnel and equipment will depend on specific pre-planning decisions and on a determination of individual project requirements. In general, the physical character of operational components will be based on the requirements of individual functional activities. Reference should be made to Section 4-3 for general guidance.

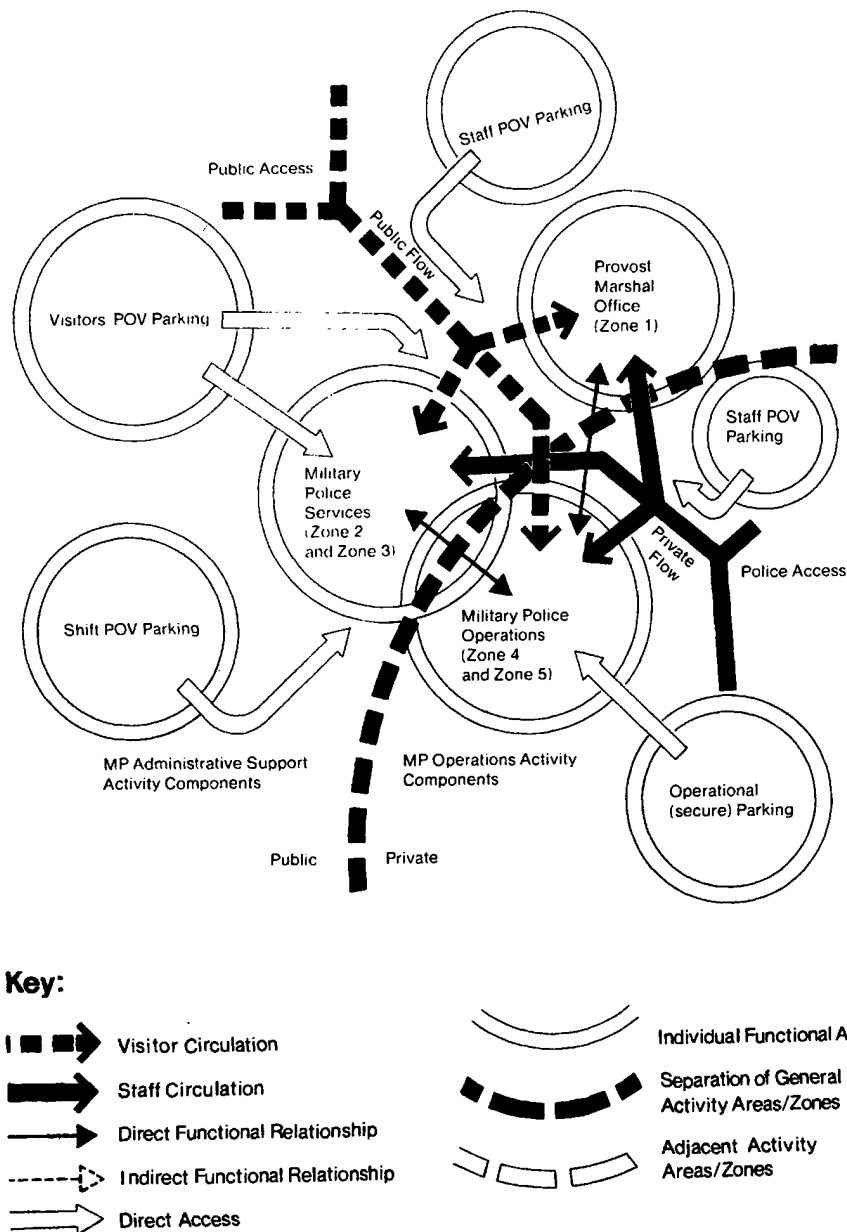
(3) **Component Relationships** In response to individual requirements where no essential functional relationship has been established, component relationships should be adjusted or adapted to accurately

reflect the level of sophistication appropriate to the general physical and functional relationships of Operations Office activities, such as those contained in Zone 4, and should demonstrate compatible or beneficial general office associations. In addition to Operation Administration and the Operations Office, the Traffic Section is one of the operational activity components staffed primarily by military police personnel (staff and patrol) that requires only general office space. Its principal responsibilities relate to the control and regulation as well as the planning of installation vehicular traffic, enforcement measures, and the investigation of motor vehicle accidents. As a subordinate activity of the military police operations office, the Traffic Section should relate to supervisory operational activities through the MP Desk.

Table 4-3 Component Requirements

		SMALL		MEDIUM		LARGE	
		Staff	Space	Staff	Space	Staff	Space
Zone 1	<b>Provost Marshal Activities</b>	8	1,618	10	1,980	13	2,594
	1—Provost Marshal Office						
	2—Community Relations						
Zone 2	<b>Military Police Services</b> (Administration Related)						
	1—Public Assistance		600		700		750
	2—Community Activities		1,230		1,484		1,650
Total		(1)	1,830	(1)	2,184	(1)	2,400
Zone 3	<b>Military Police Services</b> (Operational Related)						
	1—Registration Services Section	2	912	3	1,524	5	2,572
	2—Traffic Section	6	1,171	8	1,321	13	1,936
Total		8	2,083	11	2,845	18	3,508
Zone 4	<b>Military Police Operations</b> (Operations Support Related)						
	1—Operations Office	3	718	4	913	5	1,030
	2—Operations Administration	13	2,784	19	3,567	25	4,668
Zone 5	<b>Military Police Operations</b> (Routine On-Duty Related)						
	4—Investigations	6	1,650	12	2,425	16	3,076
	5—Physical Security	2	416	6	1,002	8	1,340
Zone 6	<b>Military Police Operations</b> (On-Duty Operations)						
	6—On-Duty Operations	3	1,890	5	2,360	6	2,750
	7—Operations Support Facilities	1	1,760	2	2,900	4	4,800
Zone 7	<b>Military Police Operations</b> (Briefing/Training)						
	(a) Briefing/Training						
	(b) Lockers and Showers (Male & Female)						
Zone 8	<b>Military Police Operations</b> (Operations Equipment Storage)						
	(c) Operations Equipment Storage						
	(Interior)						
Total		12	5,716	25	8,777	34	11,966
Net Functional Area		50	16,054	80	22,359	114	30,456
Net Area Planning Factor			1,605		2,236		3,046
Mechanical Equipment Area			801		1,125		1,523
Primary Facility Requirements		50	18,460	80	25,720	114	35,025

**Figure 4-14**  
 Functional Characteristics of  
 Military Police Facilities



**Figure 4-15**  
Typical MP Organizational  
Elements

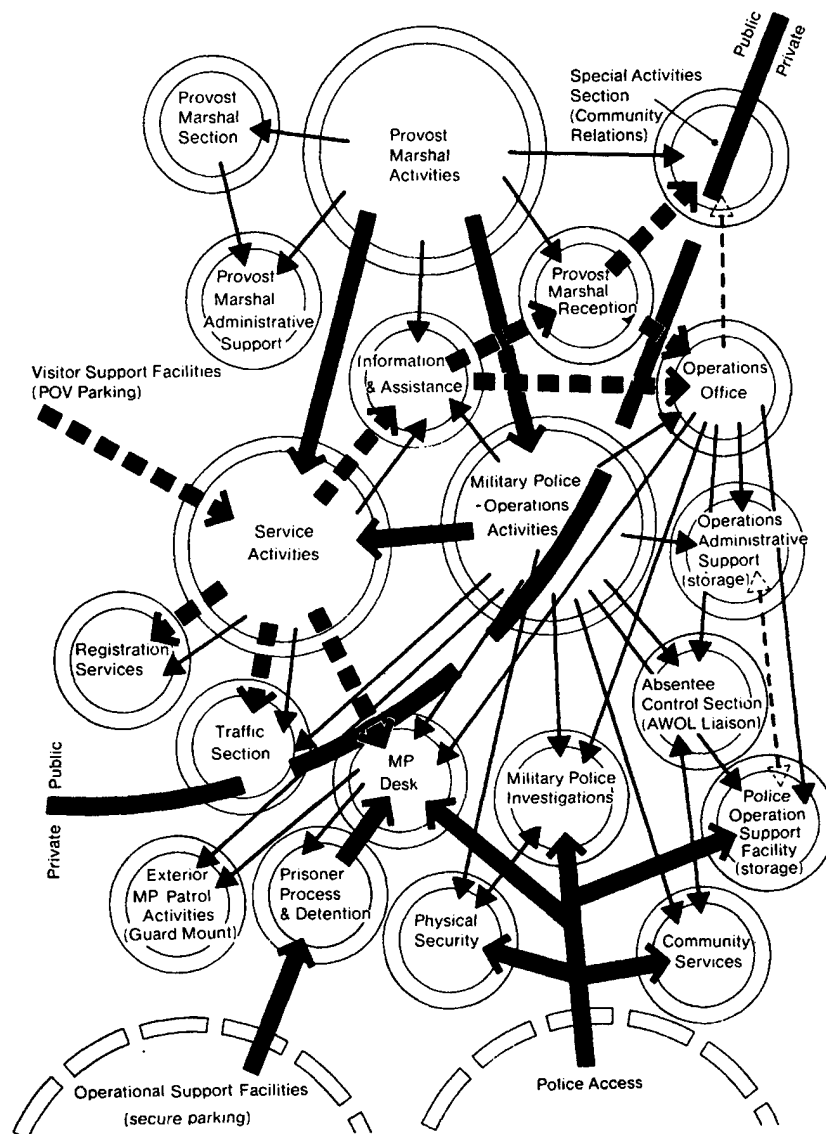




Figure 4-16

**Organizational Component: Provost Marshal Activities**

**Zone: 1**

**Planning Units:** 1 — Provost Marshal Office  
2 — Community Relations  
3 — PM Administrative Support

**Component Space Classification: Large Administrative Activity**

Type	LIN	Functional Elements	Space Standard	Staff	Sq. Ft.
Net Office Space	1	Provost Marshal		1	450
	2	Deputy Provost Marshal		1	300
	3	Provost Marshal Sergeant Major		1	200
	4	MP Community Relations Office		3	350
	5				
	6				
	7				
	8				
	A	Net Enclosed Space Requirements		6	1,300
	9	Secretary/Steno (PM)		1	100
	10	Secretary/Steno (DPM)		1	100
	11	Provost Marshal Admin. Assist.		1	150
	12	Clerk/Typist (PMO Receptionist)		1	60
	13	Clerk/Typist		1	60
	14	MP		1	48
Special Space Requirements	15				
	16	General Office Equipment			180
	B	Net Open Space Requirements		6	698
	17	PMO Reception (seating for 6)			150
	18	Closet & Storage Space			80
	19				
	20				
	21				
	22				
	C	Net Special Space Requirements			230
		Net Functional Space			2,288
		Component Space Access Area/20% (A + C)			306
		Total Staff and Area Requirements		13	2,594

**Figure 4-17**  
Provost Marshal Activities

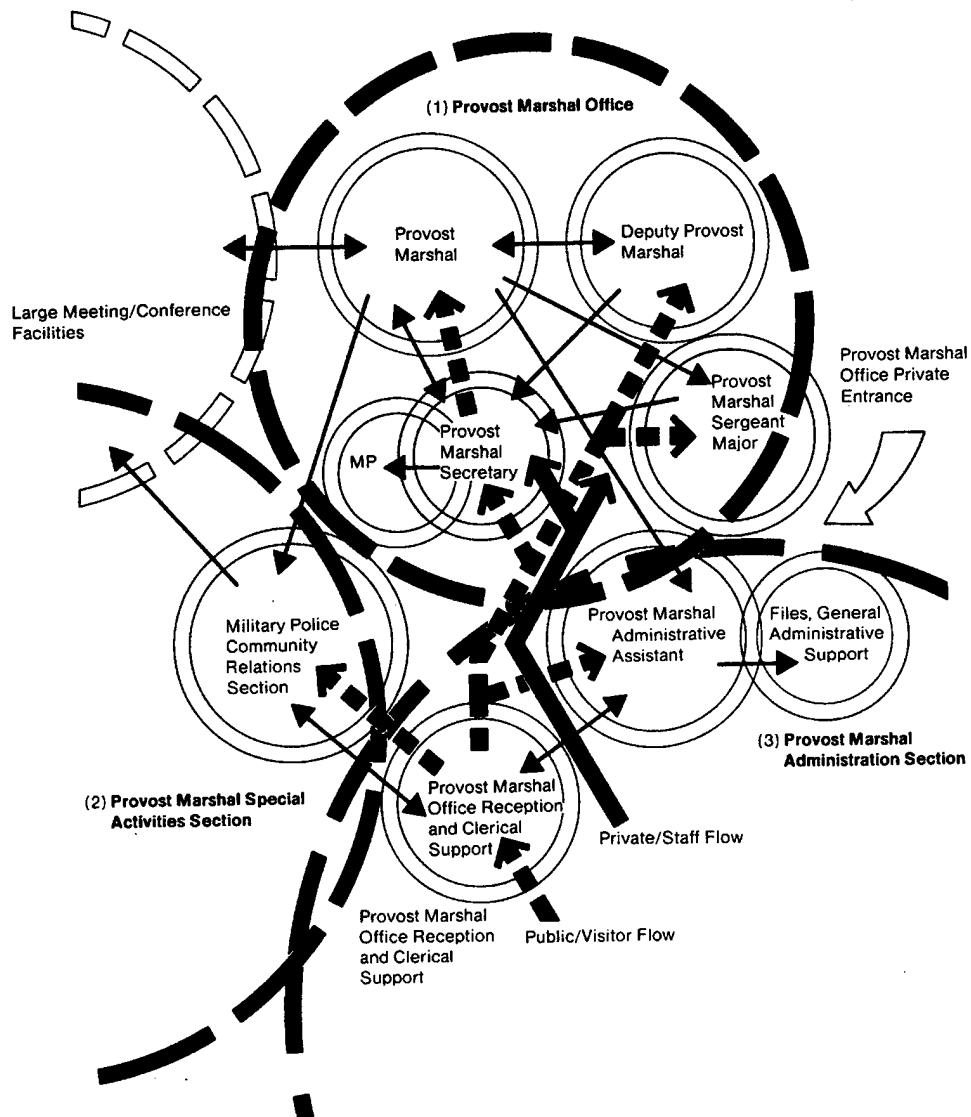


Figure 4-18

**Organizational Component: Military Police Services**

**Zone: 2**

**Planning Units: 1 — Information & Assistance/Visitor & Community Activity Support**

**Component Space Classification: Large Unit/Administrative Activity**

Type	LIN	Functional Elements	Space Standard	Staff	Sq. Ft.
<b>Net Office Space</b>	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
<b>Net Open Space</b>	A	<b>Net Enclosed Space Requirements</b>			
	9				
	10				
	11				
	12				
	13				
	14				
	15				
<b>Special Space Requirements</b>	16	General Office Equipment			
	B	<b>Net Open Space Requirements</b>			
	17	Public Entry (Secure Vestibule)			150
	18	Public Waiting Area (seating for 10)			250
	19	Public Toilets (handicapped)			400
	20	Large Meeting/Conference Room (25)			1,125
	21	Display Area			75
	22	Information (see MP Desk)			
<b>C</b>		<b>Net Special Space Requirements</b>			2,000
		<b>Net Functional Space</b>			2,000
		<b>Component Space Access Area/20% (A + C)</b>			400
		<b>Total Staff and Area Requirements</b>			2,400

Figure 4-19

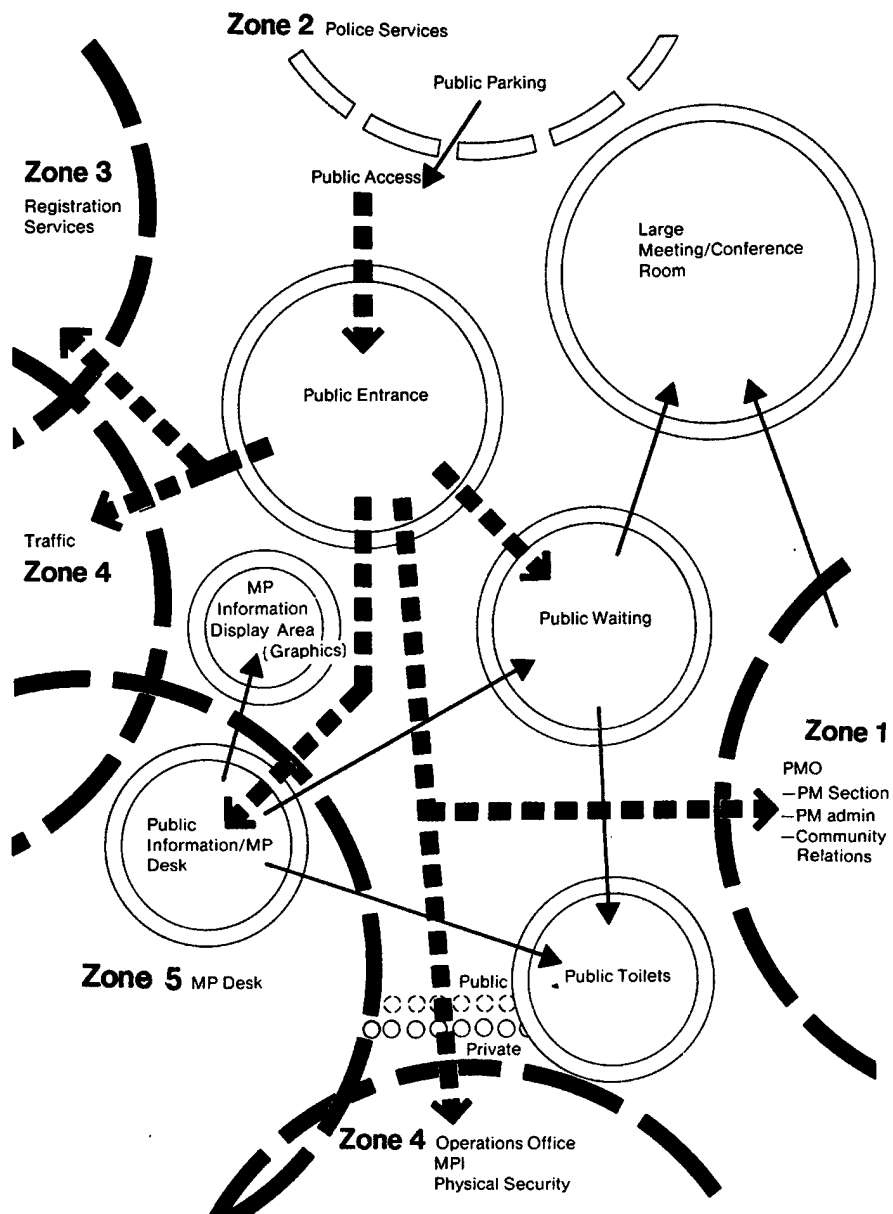


Figure 4-20

**Organizational Component: Military Police Services**

**Zone: 3**

**Planning Units: 2 — Registration Services**

**Component Space Classification: Large Unit/Administrative Activity**

Type	LIN	Functional Elements	Space Standard	Staff	Sq. Ft.
<b>Net Office Space</b>	1	Section Supervisor		1	100
	2				
	3				
	4				
	5				
	6				
	7				
	8				
<b>Enclosed Space</b>	A	<b>Net Enclosed Space Requirements</b>		1	100
	9	Assistant Supervisor		1	90
	10	Machine Clerical		3	180
	11				
	12				
	13				
	14				
	15				
<b>Open Space</b>	16	General Office Equipment			100
	B	<b>Net Open Space Requirements</b>		4	370
	17	Counter Area (8 work stations)			480
	18	Preparation Area (cap. 18-20)			200
	19	Seating Area (cap. 15)			150
	20	Standing Area			225
	21	Work Area			480
	22	Record Storage Room			200
<b>Special Space Requirements</b>	C	<b>Net Special Space Requirements</b>			1,735
		<b>Net Functional Space</b>			2,205
		<b>Component Space Access Area/20% (A + C)</b>			367
		<b>Total Staff and Area Requirements</b>		5	2,572

Figure 4-21

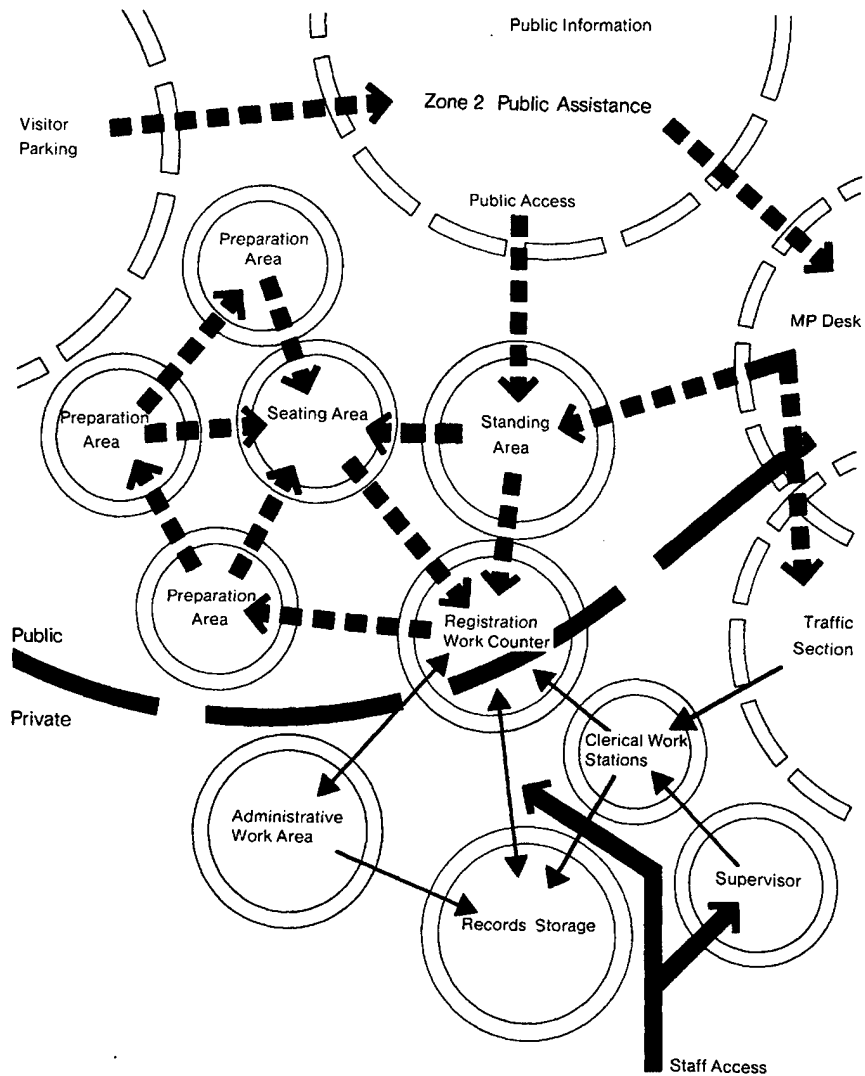


Figure 4-22

**Organizational Component: Military Police Operations**

**Zone: 4**

**Planning Units: 1 — Operation Office**

**Component Space Classification: Medium Scale/B-type Operational Activity**

Type	LIN	Functional Elements	Space Standard	Staff	Sq. Ft.
Net Office Space Enclosed Space	1	Operations Officer		1	218
	2	Operations NCO		1	125
	3	Operations Statistician		1	125
	4				
	5				
	6				
	7				
	8				
	A	Net Enclosed Space Requirements		3	468
	9	Clerk/Steno		1	90
Net Office Space Open Space	10				
	11				
	12				
	13				
	14				
	15				
	16	General Office Equipment			45
	B	Net Open Space Requirements		1	135
	17	Reception Area (seating-3)			80
	18	Secure Files/Storage Room			100
Special Space Requirements	19				
	20				
	21				
	22				
	C	Net Special Space Requirements			180
		Net Functional Space			783
		Component Space Access Area/20% (A + C)			130
		Total Staff and Area Requirements		4	913

Figure 4-23  
Operations Office

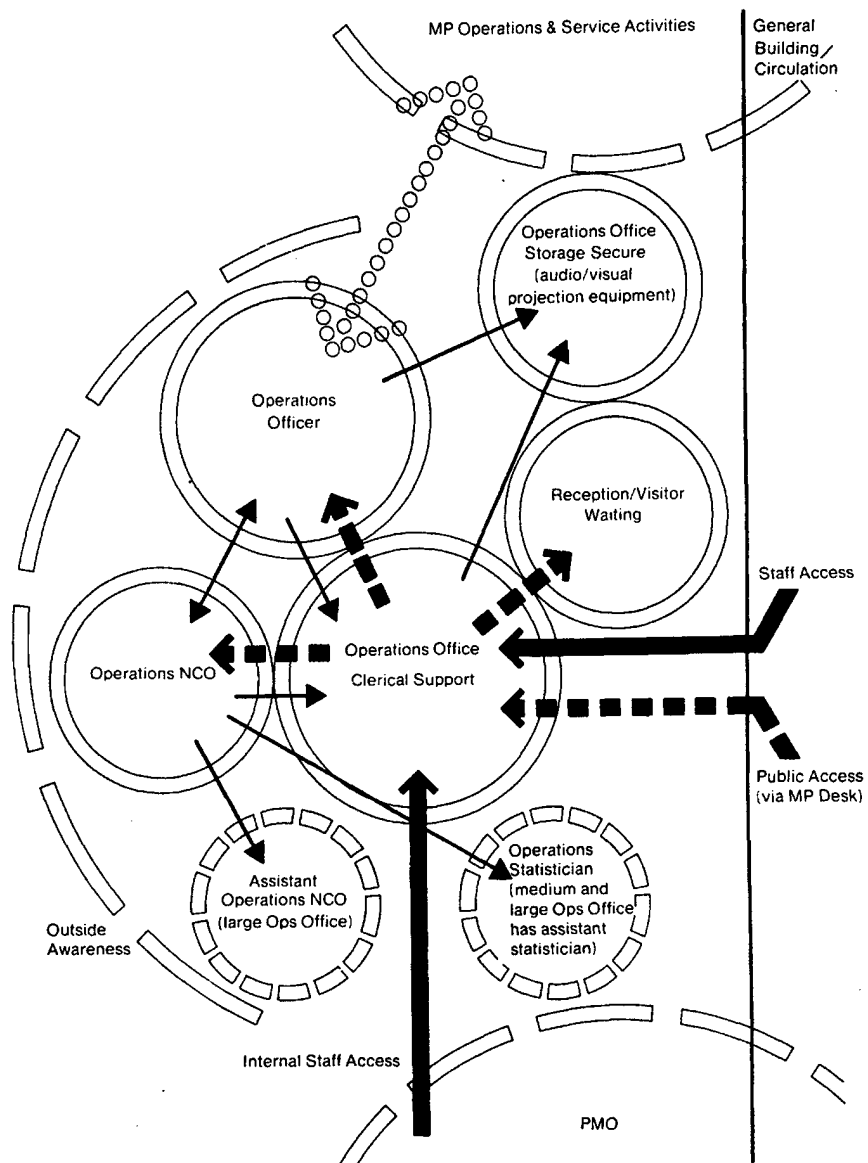




Figure 4-24

**Organizational Component: Military Police Operations**

**Zone: 4**

**Planning Units: 2 — Operations Administration**

**Component Space Classification: Large Scale/C-type Administrative Activity**

Type	LIN	Functional Elements	Space Standard	Staff	Sq. Ft.
Net Office Space	1	Operations Administration Supv.		1	150
	2	Asst. Ops. Admin. Supv.		1	100
	3	MIS Supv.		1	100
	4	WPC Supv.		1	100
	5				
	6				
	7				
	8				
	A	Net Enclosed Space Requirements		4	450
	9	Clerical Supv. (WPC)		1	90
	10	Clerk/Typist (Reception)		1	60
	11				
	12				
	13				
	14				
Special Space Requirements	15				
	16	General Office Equipment			90
	B	Net Open Space Requirements		2	240
	17	Reception Area (Seating-5)			120
	18	MIS Operations Center		6	900
	19	Central Files & Records Storage		2	640
	20	Word Processing Center		8	640
	21	Mail/Message/Repro Center		2	640
	22	Administrative Supplies Storage		1	300
	C	Net Special Space Requirements		19	3,240
	Net Functional Space			3,930	
	Component Space Access Area/20% (A + C)			738	
	Total Staff and Area Requirements		25	4,668	

Figure 4-25  
 Operations Administration

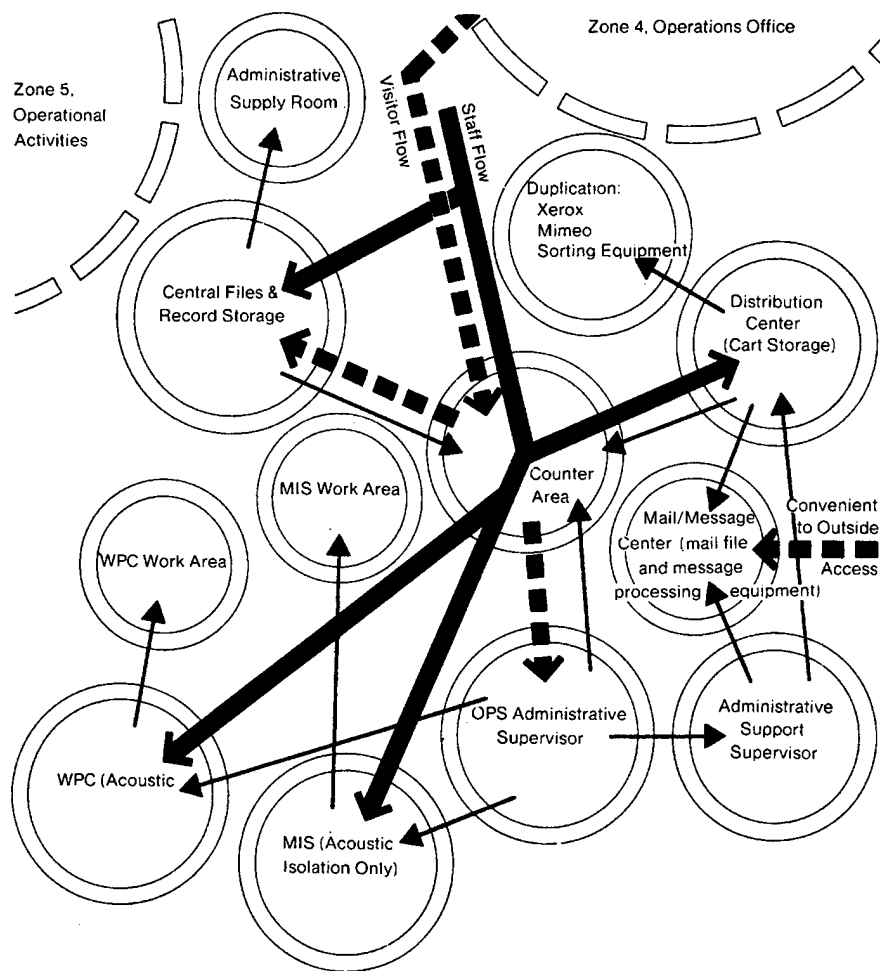


Figure 4-26

**Organizational Component: Military Police Operations**

**Zone: 4**

**Planning Units: 3 — Operations Support Services**

- (a) Liaison Section
- (b) Community Service Section
- (c) Absentee Control Section

**Component Space Classification: Large Scale/A-type Operational Activity**

Type	LIN	Functional Elements	Space Standard	Staff	Sq. Ft.
<b>Net Office Space</b>	1	Liaison Officer		1	125
	2	Liaison Assistant		1	100
	3				
	4				
	5				
	6				
	7				
	8				
<b>Enclosed Space</b>	A	<b>Net Enclosed Space Requirements</b>		2	225
	9	Liaison Specialist		2	180
	10	Clerk/Steno		1	60
	11				
	12				
<b>Open Space</b>	13				
	14				
	15				
	16	General Office Equipment			80
	B	<b>Net Open Space Requirements</b>		3	320
<b>Special Space Requirements</b>	17	Reception Area (Seating-5)			150
	18				
	19				
	20				
	21				
<b>Requirements</b>	22				
	C	<b>Net Special Space Requirements</b>			150
		<b>Net Functional Space</b>			695
		<b>Component Space Access Area/20% (A + C)</b>			75
		<b>Total Staff and Area Requirements</b>		5	870

Figure 4-27

**Organizational Component: Military Police Operations**

**Zone: 4**

**Planning Units: 3 — Operations Support Services**

- (a) Liaison Section
- (b) Community Service Section
- (c) Absentee Control Section

**Component Space Classification: Large Scale/A-type Operational Activity**

Type	LIN	Functional Elements	Space Standard	Staff	Sq. Ft.
Net Office Space Enclosed Space	1	Community Services Officer		1	240
	2	Assistant		1	100
	3				
	4				
	5				
	6				
	7				
	8				
Net Office Space Open Space	A	<b>Net Enclosed Space Requirements</b>		2	340
	9	Specialist		1	90
	10	Receptionist		1	90
	11	Clerk/Steno		1	60
	12				
	13				
	14				
	15				
Special Space Requirements	16	General Office Equipment			120
	B	<b>Net Open Space Requirements</b>		3	360
	17	Reception Area (Seating-5)			150
	18	Small Interview Rooms (2)			200
	19				
	20				
	21				
	22				
	C	<b>Net Special Space Requirements</b>			350
		<b>Net Functional Space</b>			1,050
		<b>Component Space Access Area/20% (A + C)</b>			138
		<b>Total Staff and Area Requirements</b>		5	1,188

Figure 4-28

**Organizational Component: Military Police Operations**

**Zone: 4**

**Planning Units: 3 — Operations Support Services**

- (a) Liaison Section
- (b) Community Service Section
- (c) Absentee Control Section

**Component Space Classification: Large Scale/A-type Operational Activity**

Type	LIN	Functional Elements	Space Standard	Staff	Sq. Ft.
Net Office Space Enclosed Space	1	Section Supervisor		1	120
	2	Assistant Sect. Supv.		1	100
	3	Absentee Control Team		6	540
	4				
	5				
	6				
	7				
	8				
	A	<b>Net Enclosed Space Requirements</b>		8	760
	9	Clerk/Typist		1	60
Net Open Space Open Space	10				
	11				
	12				
	13				
	14				
	15				
	16	General Office Equipment			80
	B	<b>Net Open Space Requirements</b>		1	140
	17	Waiting Area (Seating-6)			150
	18				
Special Space Requirements	19				
	20				
	21				
	22				
	C	<b>Net Special Space Requirements</b>			150
		<b>Net Functional Space</b>			1,050
		<b>Component Space Access Area/20% (A + C)</b>			182
		<b>Total Staff and Area Requirements</b>		9	1,232

Figure 4-29

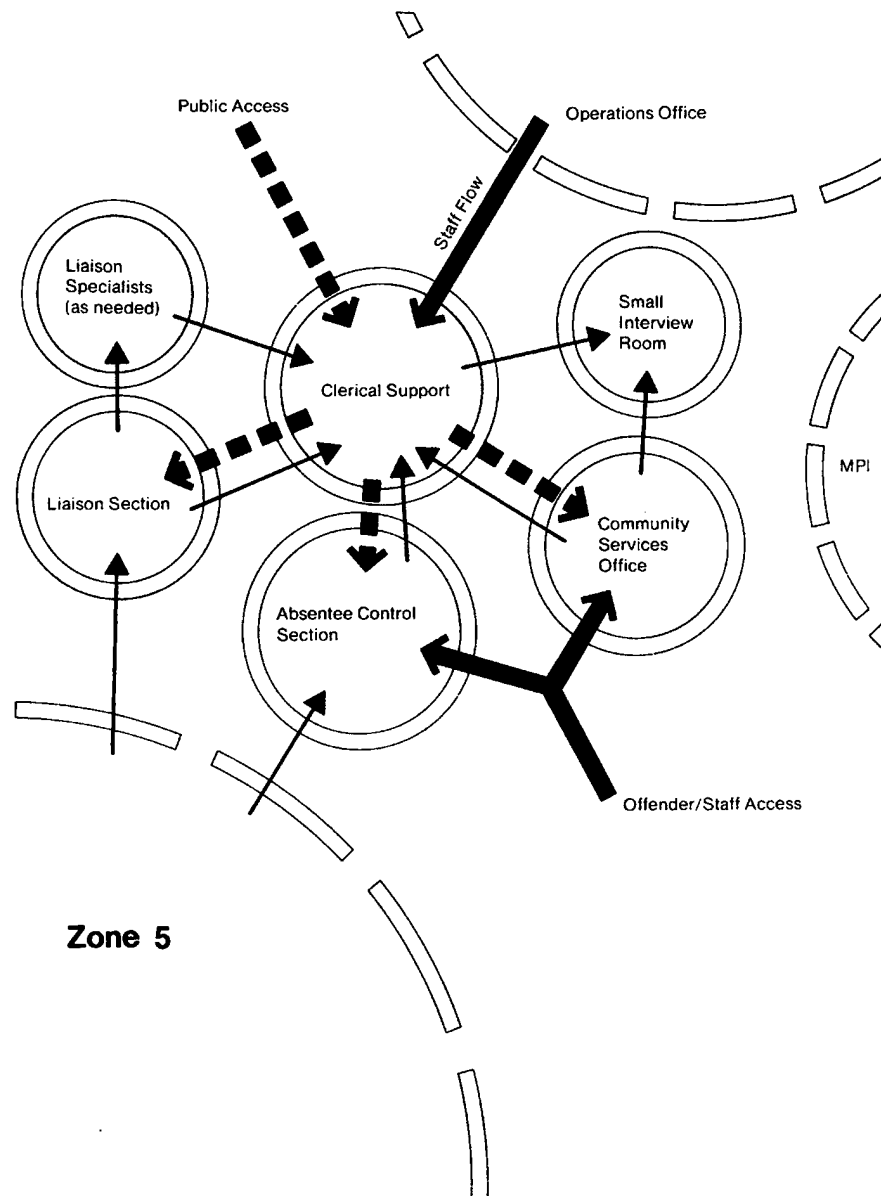


Figure 4-30

**Organizational Component: Military Police Operations**

**Zone: 4**

**Planning Units: 4 — Traffic Section**

**Component Space Classification: Large Scale/B-type Operational Activity**

Type	LIN	Functional Elements	Space Standard	Staff	Sq. Ft.
Net Office Space	1	Section Supervisor		1	175
	2	MP Accident Investigator		4	350
	3				
	4				
	5				
	6				
	7				
	8				
	A	Net Enclosed Space Requirements		5	525
	9	Assistant Section Supervisor		1	100
	10	MP Accident Investigator		(6)	360
Open Space	11	Clerk/Typist		1	60
	12				
	13				
	14				
	15				
	16	General Office Equipment			245
	B	Net Open Space Requirements		8	765
	17	Waiting Area (counter/seating-6)		1	263
	18	Work Area (2 work stations/plan files)		1	188
	19				
	20				
Special Space Requirements	21				
	22				
	C	Net Special Space Requirements		2	451
		Net Functional Space			1,741
		Component Space Access Area/20% (A + C)			195
		Total Staff and Area Requirements		13	1,936

Figure 4-31

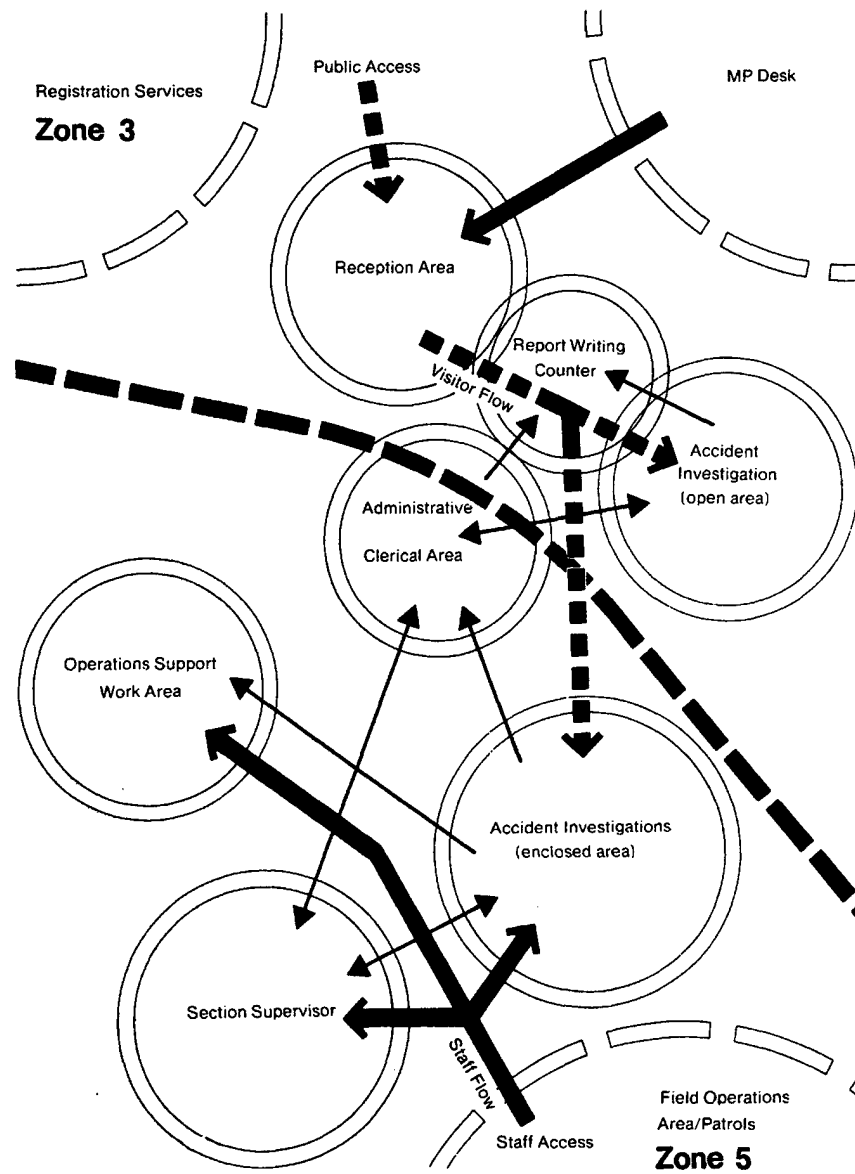




Figure 4-32

**Organizational Component: Military Police Operations**

**Zone: 5**

**Planning Units: 5 — Investigations**

**Component Space Classification: Large Scale/C-type Operational Activity**

Type	LIN	Functional Elements	Space Standard	Staff	Sq. Ft.
Net Office Space	1	MPI Supervisor		1	150
	2	Assistant MPI Supv.		1	125
	3	MP Investigator		6	480
	4				
	5				
	6				
	7				
	8				
	A	Net Enclosed Space Requirements		8	755
	9	Clerk/Typist (Reception)		1	90
	10	MPI		6	360
	11				
	12				
	13				
	14				
Special Space Requirements	15				
	16	General Office Equipment			100
	B	Net Open Space Requirements		7	550
	17	Reception Area (Seating-5)			150
	18	Evidence & Property Storage		1	700
	19	Small Interview Room (2)			200
	20	Large Interview Room (2)			300
	21				
	22				
	C	Net Special Space Requirements		1	1,350
		Net Functional Space			2,655
		Component Space Access Area/20% (A + C)			421
	Total Staff and Area Requirements		16	3,076	

Figure 4-33  
Investigations/Physical Security Sections

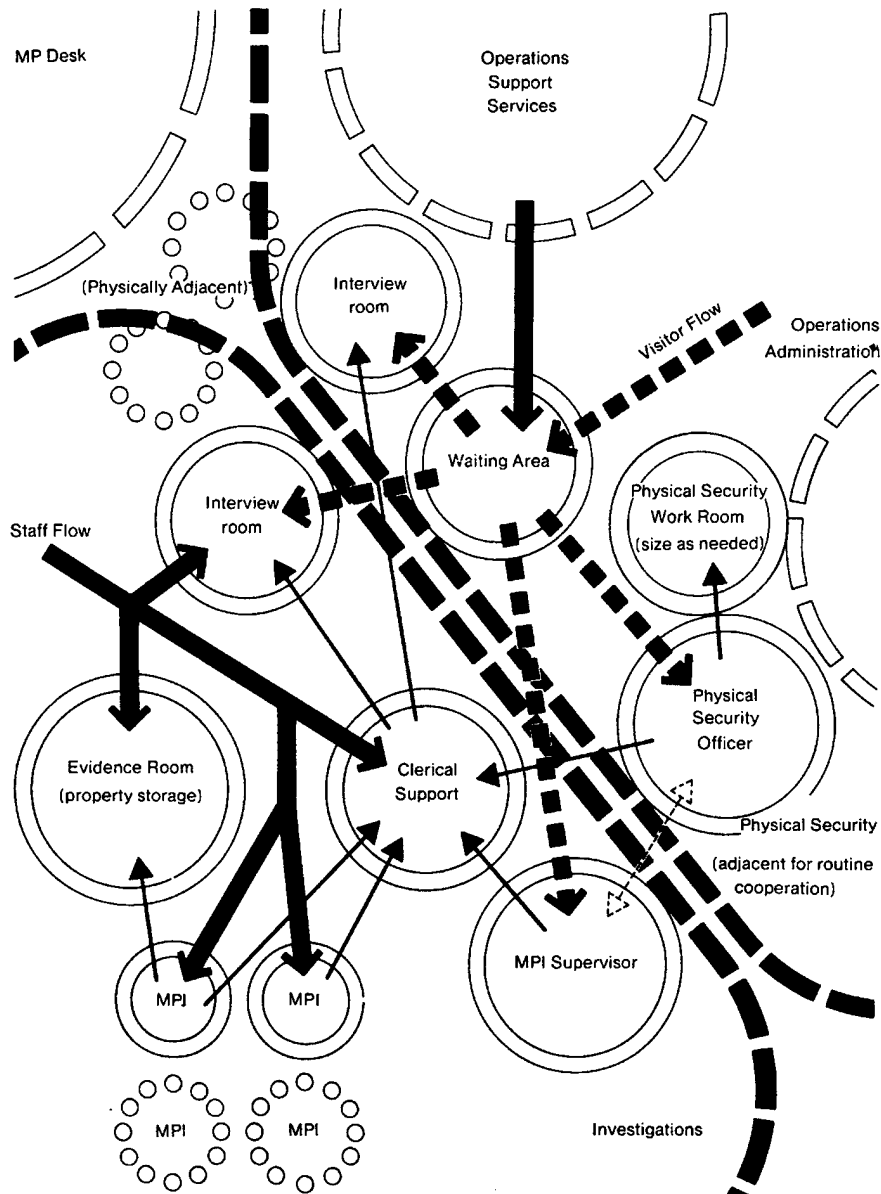


Figure 4-34

**Organizational Component: Military Police Operations**

**Zone: 5**

**Planning Units: 6 — Physical Security**

**Component Space Classification: Large Scale/C-type Operational Activity**

Type	LIN	Functional Elements	Space Standard	Staff	Sq. Ft.
<b>Net Office Space</b>	1	Physical Security Supv.		1	150
	2	Physical Security Spec.		2	200
	3				
	4				
	5				
	6				
	7				
	8				
<b>Enclosed Space</b>	A	<b>Net Enclosed Space Requirements</b>		3	350
	9	Clerk/Typist (Reception)		1	120
	10	Physical Security Spec.		4	240
	11				
	12				
	13				
	14				
	15				
<b>Open Space</b>	16	General Office Equipment			80
	B	<b>Net Open Space Requirements</b>		5	440
	17	Reception Area (Seating-5)			150
	18	Physical Security Workroom			150
	19	Equipment Storage			100
	20				
	21				
	22				
<b>Special Space Requirements</b>	C	<b>Net Special Space Requirements</b>			400
		<b>Net Functional Space</b>			1,190
		<b>Component Space Access Area/20% (A + C)</b>			150
		<b>Total Staff and Area Requirements</b>		8	1,340

Figure 4-35  
 Investigations/Physical Security Sections

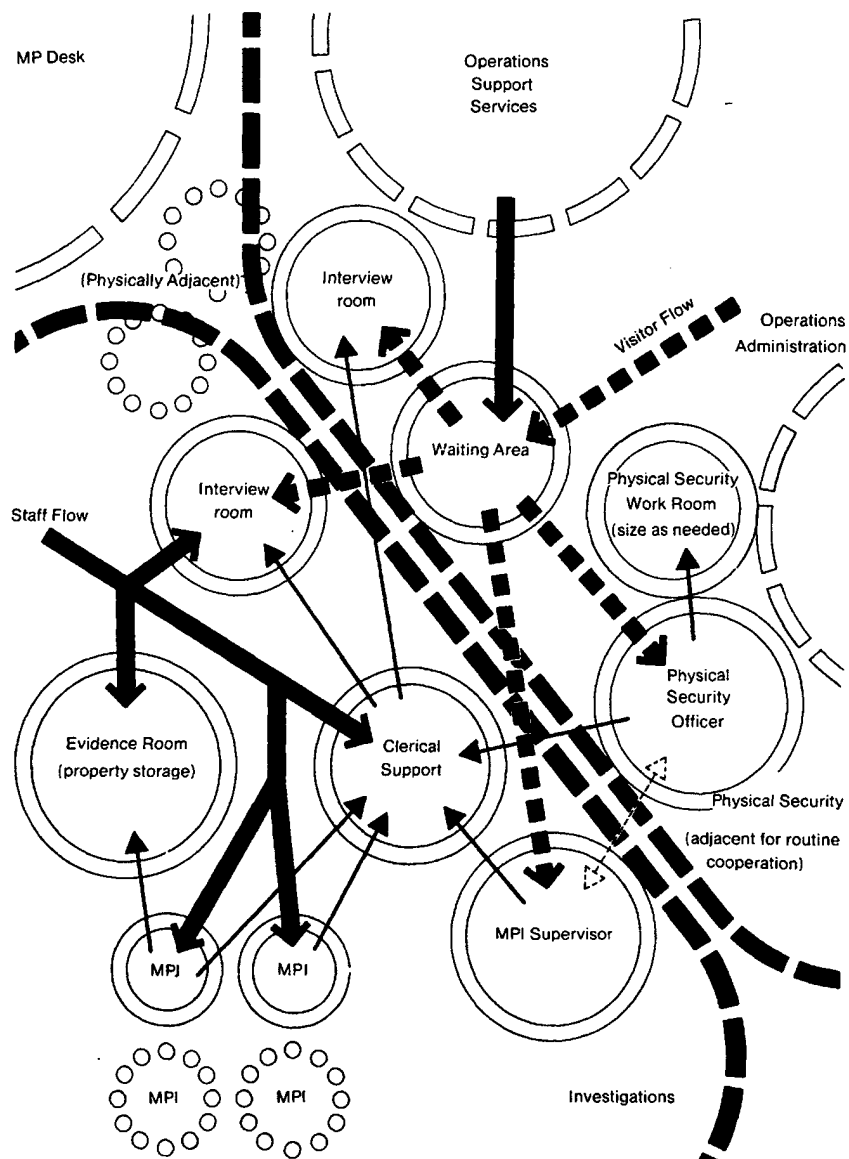


Figure 4-36

**Organizational Component: Military Police Operations**

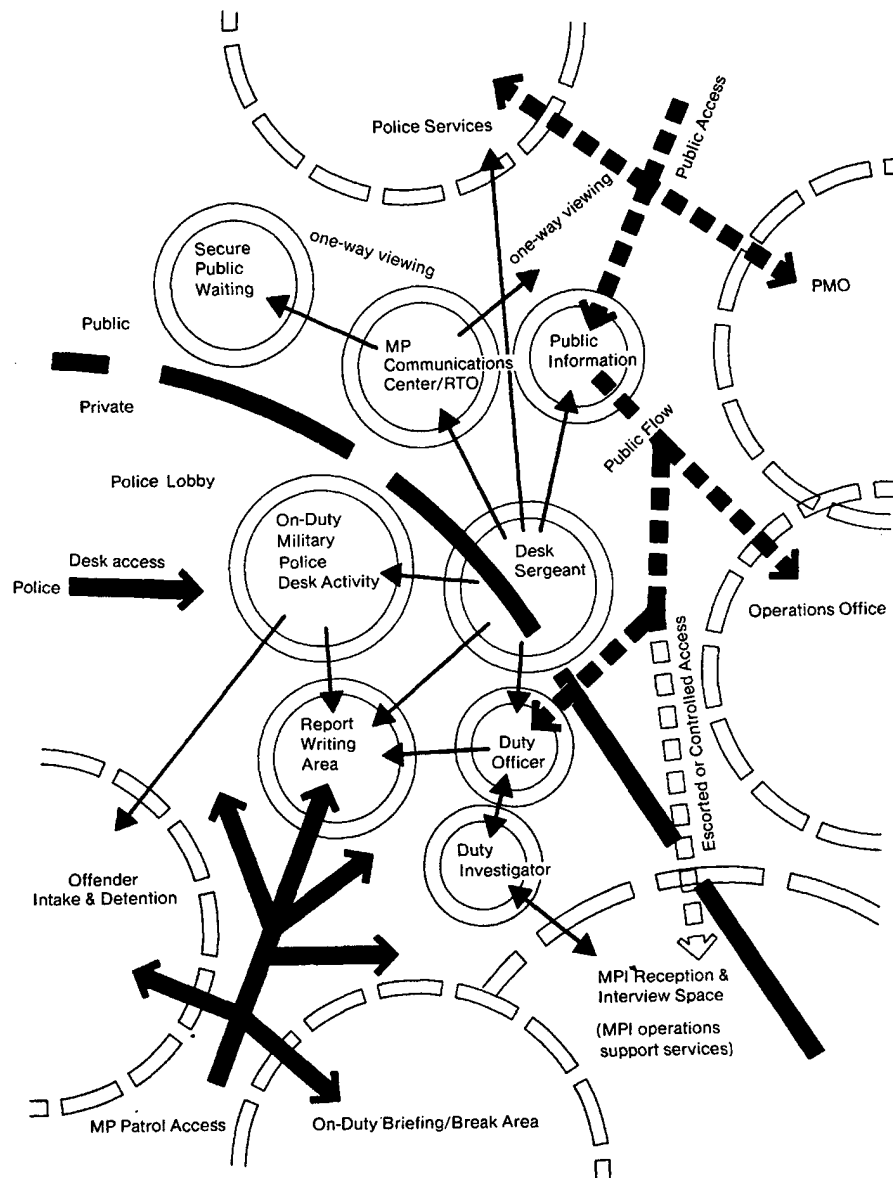
**Zone: 5**

**Planning Unit: 7 — On-Duty Operations**

**Component Space Classification: Large Scale/A-type Operational Activity**

Type	LIN	Functional Elements	Space Standard	Staff	Sq. Ft.
Net Office Space Enclosed Space	1	Duty Office	*	(2)	250
	2	MP Desk	*	3	575
	3	Communications Room	*	2	180
	4	Public Recept. Desk	*	(1)	150
	5	Patrol Reports Room	*		150
	6	Awol App. Team	*	2	180
	7				
	A	<b>Net Enclosed Space</b>		10	1,485
	8	Detention Clerk (female)		(1)	60
	9				
	10	General Office Equipment			100
	B	<b>Net Open Space Requirement</b>			160
	11	Prisoner Processing & Detention			1,300
	12	Contingency Waiting Area			300
	13	Patrol/Staff Break Area			350
Special Space Requirements	14	Patrol Briefing Room			600
	15	Locker/Shower/Toilet			1,150
	C	<b>Net Special Space Requirements</b>			3,700
		<b>Net Functional Space</b>			5,345
		<b>Component Space Access Area/20% (A + C)</b>			1,037
		<b>Total Staff and Area Requirements</b>		11	6,382

Figure 4-37



## Chapter 5 Criteria for Upgrading Existing Facilities

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# Chapter 5

## 5-1

### General

**a. PURPOSE** This chapter outlines the project development guidance and planning and design considerations for projects involving the upgrading of existing facilities. This chapter also presents strategies for physical development and outlines preplanning decisions, and site and facility selection guidance peculiar to projects that require the modernization and improvement of existing facilities for use by military police organizations.

**b. APPLICABILITY** The guidance contained in this chapter will be applicable to a wide range of small, medium and large scale projects involving improvements to existing facilities and should be used in conjunction with the criteria and guidance for new construction contained in the preceding chapters. The guidance will typically apply to modernization and improvement projects involving additions, alterations, conversions or replacement of existing facilities. It will also apply to projects involving the relocation of existing facilities and be useful in the planning stage of projects that require phased construction and necessitate overlaps in the design-build process. Alternative approaches to upgrading existing facilities to which the guidance in this chapter may also be applicable, include step-by-step total replacement projects, the acquisition or erection of specially designed portable or relocatable facilities, the addition, expansion or conversion of existing facilities by the construction of new permanent facilities, or the lease/procurement of new or improved operations or office type furniture and equipment. For example, a step-by-step total replacement approach might require functional activities to be temporarily relocated for a short period of time to unimproved but adequate facilities while each phase of upgrading takes place; or, for less extensive projects, might require that gradual unobstructive improvement of facilities and equipment take place while major functions continue to operate in the same location.

#### **c. FACTORS AFFECTING INDIVIDUAL PROJECTS**

When individual project constraints indicate the need to upgrade existing facilities, several administrative, budgetary and construction factors must be taken into consideration. These factors include, among other things the condition of existing operations, the type of existing construction, the timing and character of modernization and improvement projects, the appropriation for and funding levels and approval procedures of relevant construction programs, and, at the local level, the budgetary priorities and scheduling constraints imposed by installation manpower and material resources limitations.

**d. DEVELOPMENT OF PROJECT OPTIONS** Because modernization and improvement projects involve a wide range of design and construction constraints and opportunities, the using service must investigate and evaluate the suitability and effectiveness of a number of construction programs and upgrading alternatives before selecting the most appropriate means for project accomplishment. This assessment should be guided by pre-planning decisions that define the scope and magnitude of required improvements.

## 5-2

### Pre-Planning Decisions

**a. BASIC DECISIONS** The primary objective of pre-planning decisions is to identify a strategy for physical development that will accomplish the required improvement of existing operations. The functional characteristics and physical condition of existing operations are the most influential factors to be considered. Thus, a preliminary estimate of requirements of existing operations must be made prior to selecting an approach. The accomplishment of this requirement should take into account the following considerations.

- (1) The functional character of existing operations.
- (2) The physical character of presently occupied space.
- (3) The need for technical assistance in the assessment of upgrading potential.
- (4) The long-range desirability of project accomplishment.
- (5) The availability of funds for project completion.

#### **b. FUNCTIONAL CHARACTER OF EXISTING OPERATIONS**

In general, a pre-planning decision as to whether or not upgrading of existing facilities is required will depend on the functional character of existing operations and the degree to which existing facilities limit the accomplishment of functional objectives. A review of the functional criteria contained in the preceding chapters of this guide should provide a preliminary indication of the degree to which the functional objectives of military police activities are presently being met. The provost marshal should make a simple but objective evaluation of existing operations based on the project-specific functional and planning and design criteria and general guidance contained in Chapters 2, 3, and 4. The functional characteristics of existing operations can be rated according to the procedures which follow. The results will provide a quantitative indication of the level of operational effectiveness and, when considered in conjunction with factors affecting project urgency, will reflect the need for upgrading existing facilities relative to the functional characteristics and physical condition of existing operations.



Table 5-1 Characteristics of Existing Operations

Functional Indicators	Weighted Value	Criteria Reference	Evaluation Procedure
Location	3	Refer to Chapter 2	Evaluate the existing operational relationships to determine (1) whether or not the functional and physical requirements related to the location of individual military police facilities have been observed, and (2) whether or not the existing location allows for effective physical relationships between military police operations and related functional activities.
Functional Activity Relationships	3	Refer to Chapter 4 for the general space organization principles and physical relationship requirements of individual activities	The present organization of space should be evaluated to determine whether or not the proper functional relationships exist.
Circulation and Security	3	Refer to Chapters 3 and 4	Evaluate existing operational relationships to determine whether or not the proper pattern of visitor/staff circulation will allow the maintenance of functional integrity within major activity zones or whether existing space organization impedes the separation and control of circulation and does not define a clear order of visitor/staff movement from one point to another.
Climate Control and Acoustic Isolation	2	Refer to Chapter 3 and to individual space criteria contained in Chapter 4.	Evaluate existing operations to determine whether or not the special environmental and climate control requirements of functional areas and individual activities are properly provided for.
Flexibility	2	Refer to the specific guidance and criteria contained in Chapters 3 and 4.	Evaluate existing operations to determine whether or not present conditions conform to requirements for flexibility. Conditions related to spatial environment, functional areas, partitions, support systems, and physical adaptability are the most significant factors affecting the flexibility of existing space. Conditions related to equipment, furnishings, and surface materials tend to have less impact on flexibility. In most instances, movable objects can be readily adapted or changed; fixed elements present more lasting constraints on long-term operational effectiveness.
Special Construction	1	Refer to Chapters 3 and 4.	Evaluate existing operations to determine whether or not special construction features typically required by Military Police Facilities conform to the functional criteria for individual activities and the regulations governing the standard of operations.
General Design	1	Refer to Chapters 2, 3 and 4	Evaluate existing operations to determine whether or not the minimum recommended standards for functionally effective design have been observed. Primary and support facilities should conform to the minimum design standards relative to the existing scale of operations.

**(1) Rating Existing Operations** Using the planning criteria and functional objectives contained in Chapters 2, 3, and 4 as the basis for judgment a quantitative rating of conformity to requirements should be developed for individual functional activities. Low rating, non-conforming or exceptional conditions must be documented as below a specifically prescribed standard. For example, the general characteristics and specific functions of existing operations can be described in terms of their relative conformity on a sliding scale between 0 and 10, where 10 indicates the highest rating of conformity, and 0 indicates non-conformity. However, where minimum standards are set by Army engineering and construction regulations, the minimum standard will be scaled at 5, with 0-4 being below standard and 6-10 above standard. Whole increments will be scaled at ten percent above or below standard; 50% below standard will be zero (0) and 50% above will be ten (10). Specific features with performance standards should be rated. A general rating of existing operations should be accomplished for each of the functional indicators listed in Table 5-1

**(2) Format** Table 5-2 indicates a graphic format that can be used in applying the general method for rating existing operations. Using Table 5-1 as a guide, an aggregate rating can be achieved by applying the following qualifications to the rating for each indi-

cator: fair rates 6 or 5; poor, 4 or 3; and very poor, 2 or 1. The rating for each indicator listed in Table 5-1 is then multiplied by the number indicating importance immediately following the indicators. This number represents the relative importance of each characteristic in terms of overall operational effectiveness; the first three indicators having the most impact on military police operations, the second two having importance for individual activities, and the last two being only generally important to overall operational effectiveness. In general, aggregate ratings will fall into the following categories: excellent ratings will be above 125; good ratings will be between 105 and 125; fair, between 75 and 105; poor, between 45 and 75; and very poor, below 45.

**(3) Factors Affecting Project Urgency** The urgency of a particular project will depend on the scale and complexity of operations, the geographical field of operation, and the mission peculiar requirements of individual military police activities. However, such factors are not easily quantified, and, therefore, must be given special consideration on a project-by-project basis. They should be evaluated in conjunction with the rating of the indicators listed in Table 5-1, in order to properly determine the urgency for project accomplishment. Ratings in Table 5-2 that indicate a low degree of conformity to functional and operational

Table 5-2 Example Rating of Existing Operations

		Characteristics of Conformity					Importance Factor	Rating
		Excellent	Good	Fair	Poor	Very Poor		
a.	Locational Considerations	9					3	27
b.	Functional Activity Relationships				3		3	9
c.	Circulation and Security		7				3	21
d.	Climate Control and Acoustic Isolation				3		2	6
e.	Flexibility and Adaptability				2		2	4
f.	Special Construction Considerations			5			1	5
g.	General Design Considerations				3		1	3
A Aggregate Rating								75

requirements should be given high priority for project accomplishment. In general, a rating of conformity for each indicator which is below 4 will usually be sufficient to indicate the need for urgent construction consideration. When the individual rating of conformity for factors a, b, or c is 9 or below, the accomplishment of the entire project should be considered urgent. Such projects will require immediate authorization under the appropriate military construction program. Field inspection indicates the need for some upgrading in almost all MP facilities. Even relatively small activities usually have special mission peculiar requirements that are not met or that may need improvement. Generally, when low ratings are analyzed in terms of the physical character of facilities, the poor condition of existing temporary type

facilities usually will require an upgrading strategy involving either the conversion of existing permanent facilities or the construction of new facilities. Paragraph 5-2c discusses the impact that the physical character of facilities has on choosing an appropriate upgrading strategy.

**c. PHYSICAL CHARACTER OF FACILITIES** Upgrading potentials related to the physical character of facilities for nine hypothetical field conditions are illustrated in Table 5-3. The most important physical factor to be considered is the type of construction which houses existing operations. Where temporary construction is in a significantly deteriorated or deficient state such that functional deficiencies are increased or cannot be corrected, complete relocation would be an appropriate

Table 5-3 Upgrading Potentials

/ Indicates likely options  
/ Indicates possible alternatives

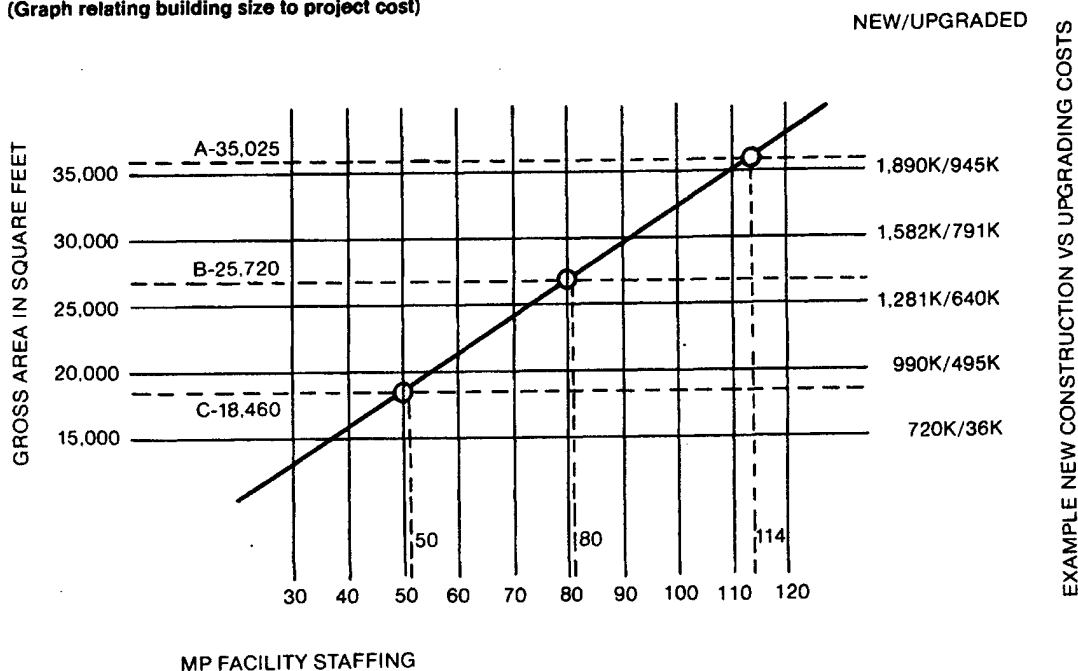
Predominant Existing Conditions	Totally New Construction	Conversion				Rehabilitation								Repair and Maintenance
		First Priority Complete Relocation	Long-Term High Cost Upgrading	Second Priority Partial Relocation	Short-Term Immediate Improvement	Middle-Term Low Cost Updating	Middle-Term High Cost Upgrading	Long-Term High Cost Upgrading	Long-Term Moderate Cost Upgrading	Middle-Term High Cost Upgrading	Short-Term Low Cost Upgrading			
1. Building and Site Deterioration and Deficiency (Temporary Facilities)	/	/	/	/										
2. Site Deterioration, Deficient Support Facilities (Temporary Facilities)		/	/	/										
3. Building Deterioration (Temporary Facilities)	/			/	/	/								
4. Building and Site Deficiency (Semi-Permanent Facilities)	/		/	/	/	/								
5. Site Deficiency (Semi-Permanent Facilities)				/	/	/	/	/	/					
6. Building Deficiency (Semi-Permanent Facilities)	/				/	/	/	/	/	/				
7. Permanent Facilities, Major Physical Development Constraints	/					/	/	/	/	/	/	/	/	
8. Permanent Facilities, Minor Physical Development Constraints					/			/	/	/	/	/	/	
9. Minimal Evidence of Existing Building and Site Limitations					/				/	/	/	/	/	

physical development strategy. Such a strategy might require either the conversion of existing facilities or the construction of new facilities; in some cases a combination of both approaches might be necessary. When the scale of operation is particularly large, and the amount of converted space is less than half of the total space required, totally new construction may be an appropriate alternative physical development strategy. Other construction classifications and existing conditions are included in Table 5-3 to offer alternate approaches for upgrading existing facilities. The appropriateness of each option will be determined by specific project requirements and by the extent and composition of individual functional activities requiring upgrading. For the purposes of Table 5-3 the location of each of the example facilities is considered to be either the most desirable or at least suitable in terms of maintaining effective MP operations.

**d. PROJECT DESIRABILITY** Table 5-4, Project Feasibility Guidelines, indicates the comparative levels of project development required either for the modernization and improvement of existing facilities or for the construction of new facilities for military police opera-

tions having similar staff and space needs. The actual cost of new or improved facilities must be established in accordance with procedures contained in AR 415-17, Empirical Cost Estimates for Military Construction. The desirability of accomplishing individual rehabilitation/conversion projects will depend on the factors affecting future needs, especially long range physical development as discussed in paragraph 5-3a. In general, the initial estimate of the need for upgrading should be based on a review of an individual organization's existing and projected operations and functional objectives. A determination of project desirability should be guided by the organizational and functional requirements discussed in Chapters 2, 3, and 4 of this guide. The guidelines contained in Table 5-4 are for illustrative purposes only. Preliminary estimates of the cost of the anticipated project should describe costs in terms of the scope, complexity and sophistication of upgrading requirements including long-term and site improvement requirements. Where the estimate of total project requirements indicates the need for expenditures above 50 percent of the cost of new construction, the feasibility of providing totally new facilities should be studied. Such studies should compare the anticipated short-, inter-

**Table 5-4 Project Feasibility Guidelines**  
(Graph relating building size to project cost)



Note: Cost of new construction is based on the following average unit costs for buildings only with a target date of July 1976:

mediate- and long-term building and site upgrading costs as well as the maintenance and operating cost of using existing facilities with the construction, maintenance and operating costs of new construction.

**(1) Feasibility of Large-Scale Upgrading** To illustrate the feasibility of large-scale upgrading in terms of space and staff requirements, upgrading costs are compared in Table 5-4 to new construction costs. These costs are related to the gross area requirements for totally rehabilitated or converted existing facilities. The three points indicated on the graph represent three example designs in Chapter 6. Space needs for each example are based on the requirements for a full range of functional activities provided within optimum physical relationships. By using a factor of 50 percent for allowable upgrading costs, it is possible to predict the feasibility of individual upgrading projects as well as the possibility or desirability that totally new construction will be an acceptable upgrading alternative. The reverse use of this form of analysis might assist the using service in determining the size and scope of activities that could be reasonably accommodated by existing space. For typical situations, it will be helpful. However, the structure of some MP organizations or activities and the physical constraints and opportunities that are

unique or unusual to the conditions of individual sites and buildings tend to diminish the accuracy of this reverse use of project feasibility guidelines.

**(2) Partial Upgrading** The need for partial new construction can be determined on a zone-by-zone basis by identifying a limited number of essential requirements for upgrading. For example, an analysis of the preliminary estimate of upgrading requirements may indicate that the need for totally new facilities will be limited to MP operations activities or that major reconstruction will be required only in the On-Duty/MP desk area. In such cases, the using service should study the possibility of accomplishing these partial upgrading requirements as part of a larger program of either total rehabilitation of existing facilities or total replacement by new construction. The percentages of the project shown in the example space allocations contained in Table 5-5 should be used for guidance. In general, upgraded space should have space allocations similar to new construction. Again, where 50 percent of new construction costs are exceeded by typical rehabilitation/conversion approaches, totally new facilities should be provided.

**(3) Alternatives to Total Replacement** When the need for relocation of existing operations is identified and the conversion of existing facilities seems most

Table 5-5 Example Space Allocations

**Small Size MP Facility (Supported Pop. 8,000 & Below)**

Zone	Function	Staff	Sq. Ft.	%/Net
1	Provost Marshal Activities	8	1,618	.09
2	Military Police Services (Admin)	(1)*	1,830	.10
3	Military Police Services (Ops)	8	3,913	.22
4	Military Police Operations (Support)	22	4,807	.27
5	Military Police Operations (On-Duty)	12	5,716	.32

**Medium Size MP Facility (Supported Pop. 8,000 to 16,000)**

Zone	Function	Staff	Sq. Ft.	%/Net
1	Provost Marshal Activities	10	1,980	.08
2	Military Police Services (Admin)	(1)*	2,184	.09
3	Military Police Services (Ops)	11	5,029	.21
4	Military Police Operations (Support)	34	6,473	.26
5	Military Police Operations (On-Duty)	25	8,777	.36

**Large Size MP Facility (Supported Pop. 16,000 to 36,000)**

Zone	Function	Staff	Sq. Ft.	%/Net
1	Provost Marshal Activities	13	2,594	.08
2	Military Police Services (Admin)	(1)**	2,400	.07
3	Military Police Services (Ops)	18	6,908	.21
4	Military Police Operations (Support)	49	8,988	.27
5	Military Police Operations (On-Duty)	34	11,966	.36

\*Part-time Occupancy, position not included in staff totals

\*\*Includes Mechanical Equipment Space

appropriate, at least two different partial upgrading alternatives should be fully developed and carefully studied before a final choice is made. For example, one might emphasize interior changes in room layouts and circulation, the other exterior adjustments to building form. This should be done as a means of evaluating the cost-effectiveness of upgrading alternatives where the sites are relatively similar or where location is not the most significant determinant of suitability. Alternatives should consider the possibility of expanding the inadequate space of facilities that are mostly constructed of substantial-permanent type materials. Where there are sufficient alternatives, converting spatially adequate but mechanically and structurally obsolete, temporary type construction should not be considered. Where it is estimated that an alternative to total replacement will have a construction cost in excess of 50 percent of such replacement cost for new construction, a third alternative must be considered - namely the erection of a totally new facility. Also, where the square foot costs for the partial upgrading of existing facilities including necessary relocations, are in excess of 50 percent of the square foot cost for a corresponding portion of new construction, consideration should be given to:

- (a) The incremental development and ultimate replacement of existing facilities by the construction of conventional permanent facilities.
- (b) The acquisition of modular pre-engineered facilities functioning concurrently with existing facilities as a short or middle-term alternative.

**e. PROJECT FUNDING** The accomplishment of individual upgrading projects depends to a large extent on a careful evaluation of the various construction programs used to provide project funding. Funding for the construction of totally new facilities is typically authorized under and governed by major MCA programs and procedures. Funding for projects which upgrade existing facilities reflects the variety that is characteristic of the scale of modernization and improvement projects. Limitations on funding imposed by specific construction programs are important considerations in determining project priorities. Because of these limitations there may be considerable differences between actual upgrading requirements and the cost, type and classification of modernization and improvement projects allowed under specific construction programs. Also, because the responsibility for approvals and the range of authorizations varies and because appropriated and non-appropriated funds have specific limitations as to use, no single construction program or level and source of funding will always be acceptable for accomplishing a given project objective. The following should guide decisions as to project funding

- (1) **Program Limitations** For small-scale upgrading projects, the using service might consider use of

OMA funds authorized for maintenance and repair in accordance with local approval. This is especially important where MCA program limitations severely limit funding resources or where certain physical limitations (the unavailability of a site or facility) may effectively reduce or prohibit the accomplishment of some project objectives. Also, self-help methods of improvement may be used to accomplish low priority upgrading projects. Larger-scale projects with urgent requirements are usually given a high priority and would most likely be accomplished under urgent minor military construction authorizations (MCA). In determining project priorities, it is important to note that the use of urgent minor MCA funds requires an approval procedure that is different from that required for OMA funding. Project funding under minor MCA programs also has a higher authorization level. Because of this higher authorization level, most large-scale projects involving the upgrading of existing facilities will be accomplished under minor MCA programs. This will allow the appropriate review of project requirements in which a final determination will be made as to whether or not new construction might be more effective as a means to achieving functional objectives.

- (2) **Program Characteristics** A general review of the specific program characteristics contained in the AR 415 series particularly AR 415-15, 415-20, and 415-35, and the criteria governing the funding of maintenance and repair activities contained in AR 420-10 should be used to identify appropriate programs.

**f. TECHNICAL ASSISTANCE** Technical assistance will usually be sought from the local Facilities Engineer where the using service must determine detailed mechanical and technical requirements. The condition of existing mechanical, structural and environmental systems may indicate the need for professional engineering assistance. Such assistance will usually involve the preparation of a preliminary evaluation of mechanical, structural and environmental systems and the effect their physical condition has on mission performance. This is particularly important for large existing operations and for operations that expect a need to significantly increase or improve present physical facilities over the long term. In some cases, technical assistance may be required to plan and design engineering systems accurately for substantial expansion of primary and support facilities. Extensive upgrading requirements, especially where the need for total new construction is a possibility, will usually require specific technical expertise such as, mechanical engineering, structural engineering, value engineering, site engineering, equipment and furnishing specification, or other specialized knowledge. Specific guidance follows on the principal requirements for and sources of technical assistance.

- (1) **Principal Requirements** Technical assistance is primarily required:

(a) Where the identification of functional requirements depends on accurate assessment of the condition of mechanical, electrical, environmental and structural systems.

(b) Where complex cost factors must be identified and detailed estimates of long-range and life-cycle costs for building and site development must be accurate and reliable:

(c) Where the need for extensive upgrading of environmental and mechanical services is already apparent:

(d) Where cost estimates must indicate to what extent totally new facilities are competitive with the life-cycle costs and utilization potential of newly modernized and improved existing facilities, and

(e) Where requirements for sophisticated technical, mechanical and/or special operations-related equipment have been established, and schedules and standards for procurement and installation are required to assure proper utilization.

**(2) Sources of Assistance** To supplement its normal project development responsibilities the using service may request technical assistance from local installation planning, engineering and construction services and from local Communications-Electronics personnel. Where local support is limited or not available, the using service may request assistance from outside technical consultants. In all instances, request for supportive technical or professional installation planning, engineering and construction process.

## 5-3

### Establishing Project Requirements

**a. GENERAL** To properly establish requirements for modernization and improvement projects, the using service must take into account specific programming, planning and design factors that affect the physical development of existing facilities for use by military police organizations. As a minimum, the determination of specific project requirements should establish:

(1) The extent and character of upgrading requirements for individual functional activities.

(2) The appropriate building and site conditions relative to specific upgrading requirements

(3) The impact on operations that might result from a specific sequence of upgrading actions or the particular priority assigned to project accomplishment.

**b. DETERMINING INDIVIDUAL UPGRADING NEEDS** A determination of the extent and character of individual upgrading requirements is the principal planning decision that will influence the selection of an appropriate construction program in general, the extent of upgrading requirements is determined by organizing the information gathered from the analysis of existing conditions in terms of the short, intermediate and long range requirements of present or projected operations. The suitability of facilities to the needs of a particular MP activity at a given time should then be assessed. This can be accomplished by comparing existing conditions and requirements against the general functional and operational requirements and physical and environmental criteria contained in this and other relevant documents. Project Location and existing primary and support facilities will be significant determinants of upgrading alternatives and individual upgrading requirements.

**(1) Project Location** When the analysts of existing conditions or extent and character of upgrading requirements indicates a need to relocate existing operations, specific site selection requirements related to project location must be established. New sites are usually determined by evaluating the impact of location factors on mission accomplishment. Thus, the using service should provide a description of the most desirable location stating the important factors to be considered in site selection. In preparing specific project location criteria, location factors affecting site selection should be classified into two major categories.

**(a) Operational Environment** The operational environment describes location factors that must be considered in selecting the component areas or individual activities to be included in the scope of upgrading requirements. The selection of components, and the sequence of upgrading work are influenced by the future demand for and supply of essential support services provided either by a specific functional activity or by MP operations in general. A description of the operational factors affecting project location should include an indication of:

- The primary physical relationship to related functional activities
- The predominant characteristics of adjacent activities
- The predominant environmental characteristics of candidate sites
- The functional characteristics of individual activities
- The operational factors that significantly affect the physical requirements of existing operations.

**(b) Physical Environment** A description of the physical factors affecting project location should include an indication of:

- Accessibility
- Circulation

- Site features
- Real property facilities
- Surrounding land use and other man-made features
- Site or building structures that might facilitate or obstruct the upgrading of existing facilities.

**(2) Primary and Support Facilities** When an alternative site containing existing primary and support facilities is required to satisfy functional requirements, such existing facilities must be evaluated for their short term, intermediate and long-range potential for satisfying future physical development objectives. This is a primary requirement since the long-term

continuity of operations is essential to mission effectiveness. The site selection process should compare functional requirements to physical and operational factors similar to those described under paragraph 5-4a.

**(3) Potential Upgrading Alternatives** Table 5-6 describes the principal upgrading alternatives that are applicable to the modernization and improvement of existing facilities for use by military police organizations used in conjunction with Table 5-7 it provides guidance for determining the specific character of construction alternatives. These alternatives when combined with established priorities for project

Table 5-6 Potential Upgrading Alternatives

TYPE	REQUIREMENTS
<b>Rehabilitation</b>	<p>Applicability—Upgrading of facilities currently used for MP activities.</p> <p>Construction—Additions, expansions, extensions, the partial alteration, replacement, or relocation of existing facilities; and the permanent installation of equipment and facilities for functional purposes such as detention/holding, communications, security, essential environmental and mechanical services, or for any other functional purpose requiring permanently installed equipment or facilities</p>
<b>Minor Rehabilitation</b>	<p>Applicability—Minor rehabilitation is upgrading work that can be accomplished in place.</p> <p>Construction—Surface treatments such as painting, lighting, or floor covering, furnishing or equipment, or the minor partitioning of space that requires no substantial alteration of primary building systems constitute minor rehabilitation activities that could be accomplished under local provisions for self-help projects</p>
<b>Major Rehabilitation</b>	<p>Applicability—Major rehabilitation is upgrading work which involves the entire facility and requires extensive physical change. Major rehabilitation is the approach which should be considered when an analysis of existing conditions and an estimate of functional and operational requirements indicate that the total upgrading effort, considering long-term project accomplishment, will be cost-effective when compared to the costs of either conversion or new construction.</p> <p>Construction—Major rehabilitation includes all activity described under the general type above. Depending on existing conditions, major rehabilitation also may include either the temporary conversion of non-designated facilities which are preferably adjacent or in close proximity to the currently occupied facilities undergoing physical and functional improvement, or the provision of temporary, relocatable, or portable buildings for required functional purposes within the time/use limitations of specific construction programs.</p>
<b>Conversion</b>	<p>Applicability—Conversion is the upgrading of an existing facility not presently used for MP functional purposes.</p> <p>Construction—Conversion includes construction activities similar to those referred to as appropriate for the rehabilitation of existing facilities. The conversion alternative may involve the complete and permanent relocation of existing operations from one facility to another. It is usually required where adjacent facilities cannot be utilized in conjunction with currently occupied space, and where contiguous physical and functional relationships must be maintained. The cost of conversion may be greater than rehabilitation oriented construction and may exceed the 50 percent limitation relative to the cost of new construction. Both the cost and the availability of an appropriate alternative location for the permanent relocation of operations will be a determining factor in the choice of the conversion alternative. A study should be made of the feasibility of total new construction if dramatic changes can be anticipated after upgrading and existing facilities present limitations on operational flexibility. Also, when alternate locations are not acceptable, the extended use of portable or relocatable facilities should be considered until such time as the conversion of appropriate existing facilities is possible.</p>
<b>New Construction</b>	<p>Applicability—This alternative refers to either the total replacement of existing facilities with ground-up new construction or the partial replacement of existing facilities with the long-term view toward ultimate total replacement. New construction should be considered appropriate upgrading alternative where cost-effectiveness and project feasibility studies show that it is economically and functionally more desirable than either conversion or rehabilitation of existing facilities.</p> <p>Construction—When considering the cost of construction, the 50 percent factor will be the principal indicator of economic feasibility, while long-term functional and operational efficiency and the impact on mission effectiveness should govern the choice on a functional basis. This alternative includes: The conventional construction of permanent type new facilities as an addition to or partial replacement of existing facilities, the construction or acquisition of modular type facilities which are classified as semi-permanent or temporary construction and used for intermediate occupancy until either more adequate facilities or new construction funds are made available, the acquisition or lease of short-term relocatable or removeable type facilities such as pre-engineered or modular buildings, equipment, or mobile units. Urgent upgrading requirement for operations presently housed in deficient temporary facilities and having no immediate prospect of relocating to adequate existing facilities represent conditions where the construction of totally new facilities would be most appropriate.</p>
<b>Conservation</b>	<p>Applicability—This approach generally refers to the repair and maintenance activities required to conserve the effective conditions of existing facilities.</p> <p>Construction—Conservation activities include minor self-help construction projects and the acquisition of furnishings and equipment that upgrade existing operation without requiring major adjustments in physical relationships or alterations to existing facilities.</p>



accomplishment, will determine the pre-design concepts and development strategies that satisfy the requirements of selected functional activities. In general, the identification of project priorities and the establishment of pre-design concepts depends on a consideration of the upgrading alternatives described in Table 5-6.

**(4) Individual Activity Requirements** The specific type and number of individual activities requiring upgrading will depend on an evaluation of their conformity to essential functional requirements and minimum operating standards. An estimate of the extent and character of upgrading requirements for

individual activities can be established using a method similar to the one for rating existing operations. Table 5-7 outlines the individual functional areas that may require improvement and the upgrading activities to be accomplished. In order to simplify the use of the table in conjunction with the example designs in Chapter 6, functional activity code numbers are provided for each space. Following each functional activity and its code number are ratings of existing conditions indicating the most appropriate upgrading option for a given field condition. In general, upgrading options depend both on the specific locational constraints for a given project and on the condition of existing facilities.

Table 5-7 Upgrading Requirements for Individual Functional Activities

Functional Activity	Code	CONSERVATION	REHABILITATION	CONVERSION	CONSTRUCTION
		G/E	F/G	P/F	VP/P
PM Office	1	G/E	F/G	P/F	VP/P
Community Relations	2	G/E	F/G	P/F	VP/P
PM Admin. Support	3	F/G	P/F	VP/P	VP/P
Public Assistance	4	G/E	F/G	P/F	P/F
Community Activities	5	G/E	F/G	P/F	P/F
Registration	6	F/G	P/F	VP/P	VP/P
Traffic	7	F/G	P/F	VP/P	VP/P
Operations Office	8	G/E	F/G	P/F	P/F
OPS Admin.	9	F/G	P/F	VP/P	VP/P
Liaison	10	F/G	P/F	VP/P	VP/P
Community Services	11	G/E	F/G	P/F	P/F
Absentee Control	12	F/G	P/F	P/F	P/F
Investigations	13	F/G	P/F	P/F	P/F
Physical Security	14	F/G	P/F	P/F	P/F
On-Duty Desk	15	G/E	F/G	P/F	P/F
Briefing/Training	16	F/G	P/F	VP/P	VP/P
Lockers/Shower	17	F/G	P/F	VP/P	VP/P
Operations Storage	18	F/G	P/F	VP/P	VP/P
Public Entrance/Lobby	19	G/E	F/G	P/F	P/F
Public Restrooms	20	F/G	P/F	VP/P	VP/P
Staff Toilets	21	F/G	P/F	VP/P	VP/P
Staff Lounge	22	F/G	P/F	VP/P	VP/P
Staff Entrances	23	F/G	P/F	VP/P	VP/P
Maintenance Supply	24	F/G	P/F	VP/P	VP/P
Mechanical Equipment	25	F/G	P/F	VP/P	VP/P

### c. DETERMINING BUILDING/SITE SUITABILITY

Whether for facilities currently occupied by military police organizations or for facilities proposed as suitable for military police occupancy, the condition of existing buildings and sites has an effect on both the accomplishment of project objectives and on the provision of functional requirements. In order to properly determine the suitability of existing building/site conditions, the using service should evaluate each existing facility and establish to what extent present conditions inhibit or enhance the short, intermediate and long-term satisfaction of project objectives. Refer to the preceding sections of this guide to determine the applicability of general functional

and operational criteria to locational, building and site constraints and project-specific requirements. In general, a determination of the suitability of existing building/site conditions to individual project requirements depends on the following factors.

(1) **Building/Site Relationships** The suitability of the location of existing facilities on a particular site depends on the physical development factors outlined in Table 5-8. The considerations indicated in Figure 5-1, Typical Building/Site Relationships, provide additional guidance in determining building/site suitability.

Figure 5-1 Typical Location Considerations

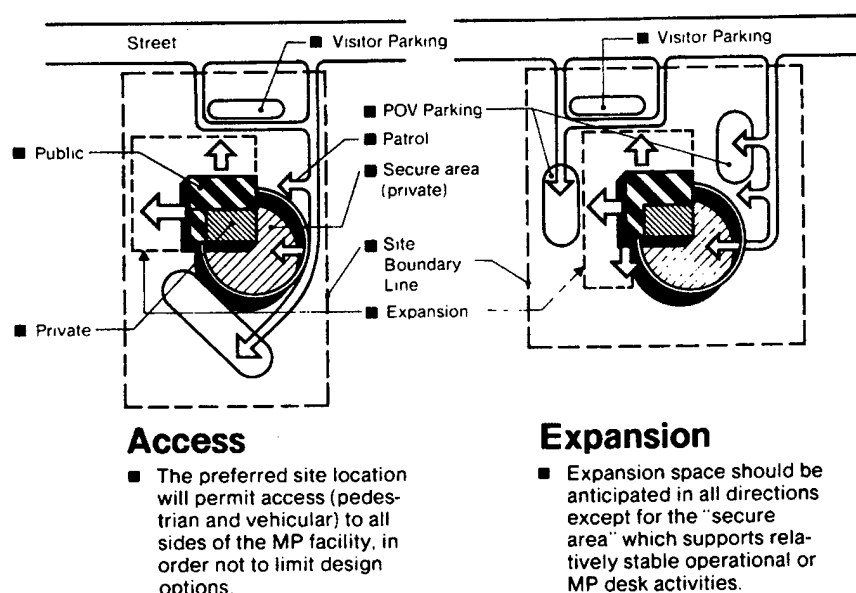


Table 5-8 Physical Development Factors

## Operational Characteristics

Requirements	References	Special Considerations
Each site should have the potential for satisfying: <ol style="list-style-type: none"> <li>1. Specific operational needs: public, private, general functional requirements of MP activities.</li> <li>2. Inherent site characteristics that will enhance requirements for confidentiality/security re: visitor/staff access, site circulation patterns.</li> <li>3. Proper physical and functional relationships, separation of public, private operations.</li> <li>4. Need for shared use of facilities, e.g., access roads, parking, utility services, which will not interfere with essential functional requirements.</li> </ol>	Chapters 2, 3: specific location criteria. Also see illustrative examples.	<p>Consider existing/projected functional relationships of related activities, e.g., CID and SJA.</p> <p>Where existing facilities have/will have direct relationship to related activities, this will influence locational requirements of support facilities/site elements.</p> <p>If future operations require increase greater than 50% of existing primary and support facilities, consider totally new construction.</p>

Table 5-8

(Continued)

## Physical Characteristics

Requirements	References	Special Considerations
<p>Each site should have:</p> <ol style="list-style-type: none"> <li>1. Potential to accommodate life cycle, usefulness, utility requirements of current, projected operations.</li> <li>2. Near square configuration, existing structures centrally located; ample surrounding space for development.</li> <li>3. Site boundaries providing potential for future development not exceeding 50% growth factor.</li> </ol>	<p>Chapters 3, 4 utility support criteria. Chapter 6, requirement examples re: different sizes of MP facilities.</p>	<p>Where configuration, space are inappropriate, there should be potential for expansion to adjacent sites for future adjustment.</p> <p>Avoid building/site shapes, topographical conditions, site elevations which might inhibit provision and distribution of adequate mechanical, utility services.</p>

## Building/Site Relationships

Requirements	References	Special Considerations
<p>It must be possible to:</p> <ol style="list-style-type: none"> <li>1. Conform to established functional requirements. Building/site elements must be properly located and have adequate capacity to accommodate functional requirements.</li> <li>2. Provide proper building/site relationships. The potential for adequate site development must be apparent.</li> <li>3. Avoid potentially damaging or costly physical or climatological conditions. Over-exposed facilities will have extensive HVAC maintenance, operations and landscaping requirements.</li> <li>4. Provide unobstructed access and expansion (pedestrian, vehicular) for all sides of existing facilities, so as not to limit future development options or impede accomplishment of separation of visitor, staff, and MP access essential to functional effectiveness.</li> </ol>	<p>Chapters 2, 3 specific site development guidance.</p>	<p>Where overexposure is already a constraint on effective operations, rehabilitation must provide protective landscaping to minimize operating costs.</p> <p>Extensive building perimeter caused by irregular building shapes makes expansion of structural and mechanical systems difficult. Rocky and sloping sites also make expansion or relocation of existing utilities difficult and costly.</p>

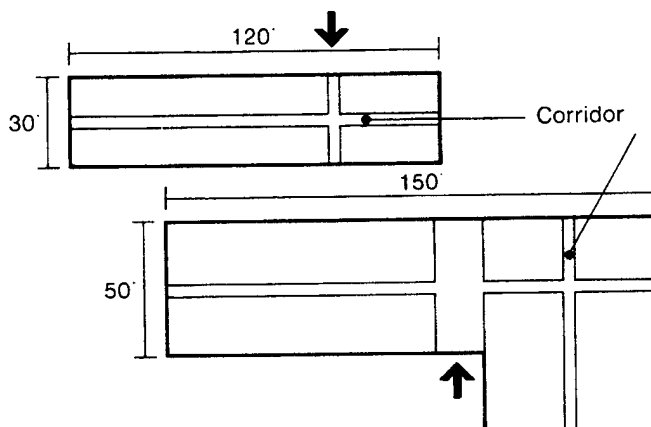
## Adjacent Activities and Facilities

Requirements	References	Special Considerations
<p>Consider functional character in terms of their relatedness to MP activities.</p> <p>Consider compatibility of physical and architectural characteristics of surrounding buildings with ultimate physical character of upgraded facilities.</p> <p>Consider building/site relationships on all sides in terms of their access, site circulation requirements, and future development constraints and opportunities.</p>		<p>Inappropriateness of such activities as recreational, commercial services may interfere with mission-accomplishment by diminishing physical security and confidentiality of operations, by detracting from character, image of functional activities, by reducing effectiveness of present and future physical development.</p>

**(2) Building Size and Form** The suitability of existing building size and form is particularly important to modernization and improvement projects. Since these characteristics must ultimately be made to conform to the functional requirements of military police activities, a situation in which the size and form of a building are already in substantial conformity will be most beneficial to the economy of a project. In general, the physical character and spatial pattern (height, length and width) of existing spaces and the physical relationship requirements of both individual functional activities and general functional areas (zones) must be considered together in order to determine the suitability of an existing building's size and form. The suitability of the usable floor area and

the number of floor levels will depend on the potential for satisfying the functional requirements of a particular scale and intensity of operation. Thus, the suitability of building size will not be exclusively determined on the basis of either the staff totals related to gross area or the aggregate space requirements derived from generally applicable square foot per person ratios. The primary criterion must be functional effectiveness. The application of functional space standards and the principles of space organization contained in this guide will play an important role in determining suitability. Figures 5-2 and 5-3 illustrate examples of a variety of physical constraints that should be considered in determining the appropriateness of a particular building's size and form.

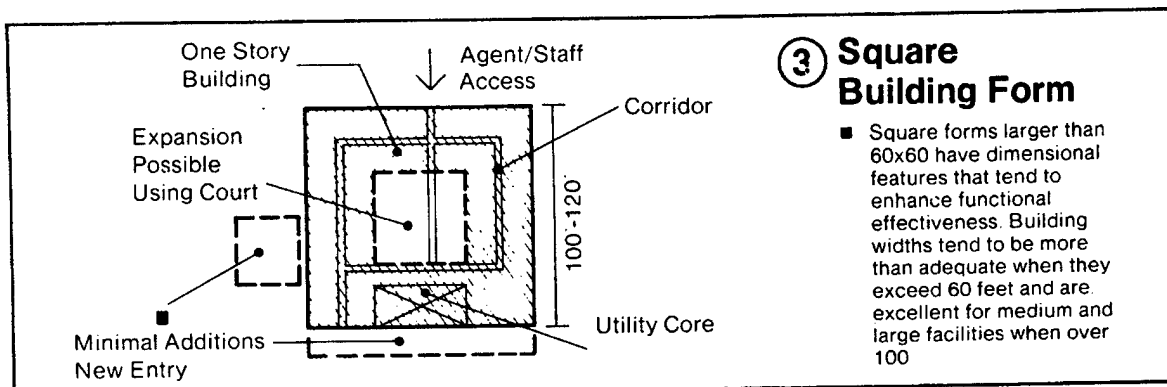
Figure 5-2 Building Size and Form



### Typical Existing Building Forms

- ① Narrow, central corridor form less than adequate.
- ② Wider, variable spaced multi-corridor forms provide better opportunities for proper space planning.

Figure 5-3 Building Size and Form



### ③ Square Building Form

- Square forms larger than 60x60 have dimensional features that tend to enhance functional effectiveness. Building widths tend to be more than adequate when they exceed 60 feet and are excellent for medium and large facilities when over 100

Figure 5-4 Building Size and Form Consideration

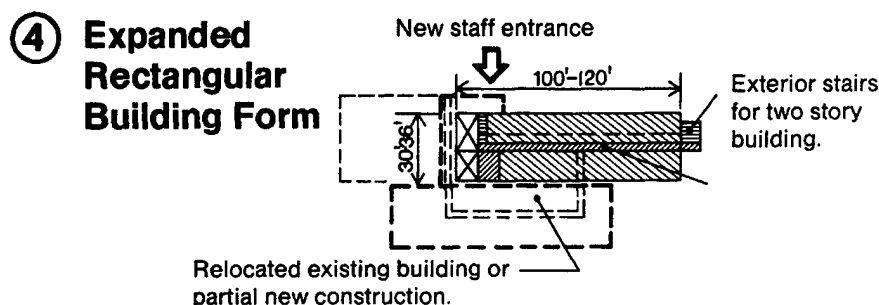
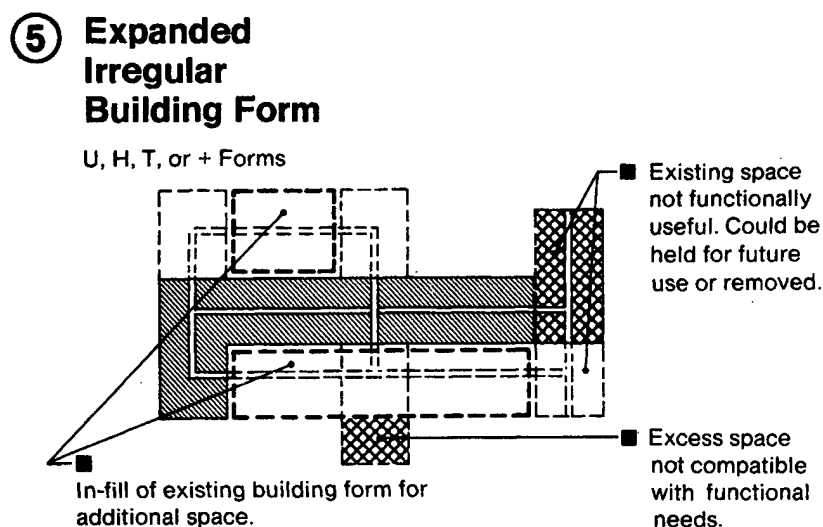


Figure 5-5 Building Size and Form



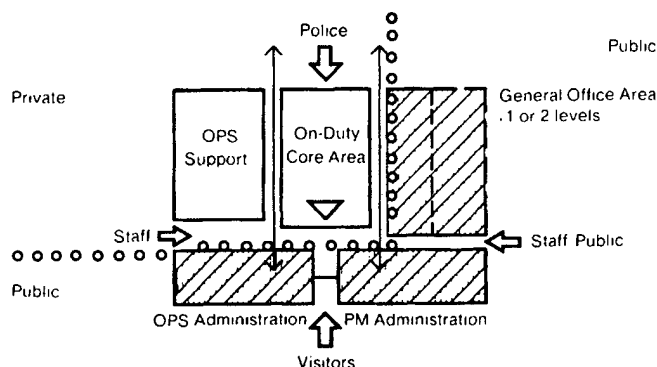
**(3) Configuration of Existing Space** In terms of accommodating the functional needs of a particular scale of operation, the configuration of existing space will be a significant factor in determining the suitability of alternate facilities or sites. Thus, the physical characteristics and interior layout of existing buildings should be studied for their conformity to general space organization principles (see Chapter 4) and to specific operational requirements. In order to properly assess the relative value of the existing space

configurations in available structures, a number of possible layouts should be developed and studied in comparison to the size and form, interior partition layout, structural system, and circulation and fenestration pattern of an existing building. The examples of desirable field conditions provided in Figure 5-4 illustrate a variety of space configurations and upgrading alternatives. Table 5-9 provides a check list of concerns that should be used in determining appropriate space layouts.

Table 5-9 Space Layout Checklist

Items	Concerns
<b>(1) Space Adaptability</b>	Physical characteristics which enhance cohesive nature of MP operations and administrative support spaces
(a) Positive opportunities	Simple building shape; building width-length between 50-100 ft; relatively open floor plan; circulation; access pattern which allows development of dual or loop corridor system
(b) Negative constraints	Building width under 30 ft; limited access; off-set or irregular corridor; short structural spans
<b>(2) Mechanical/Structural System Layout</b>	Most direct and effective means of distributing mechanical service; suitability; long-term usefulness
(a) Corridor System/Perimeter Walls	Straight corridors, simple perimeter best suited to mechanical requirements
(b) Use of existing system or development of new systems	Openness; need for incremental expansion; structural integrity; adequate duct-work and piping; capacity for supply of future electrical, plumbing services: technical assistance may be required here.
<b>(3) Expansion</b>	Future potential; adjustment, reorganization or relocation of relatively fixed position spaces, i.e., mechanical rooms, detention, on-duty desk, visitor, staff entrances; briefing, training, locker rooms, operational equipment, evidence/records storage
<b>(4) Space Partitions</b>	Suitability to project-specific requirements; compatibility with functional relationship and space requirements
(a) Location	Avoidance of unnecessary impediments to expansion and flexibility.
(b) Large open spaces/equipment-oriented up-grading strategy	Less need for extensive interior renovation; reduction of construction costs.
<b>(5) Circulation Patterns</b>	Suitability
(a) Location	Future site and building access requirements.
(b) Existing interior circulation patterns, location of major/minor corridor systems. *	Relationship to major functional activities, to stairs, to visitor/staff entrances; separation of public, private, confidential access
<b>(6) Outside Awareness</b>	Visual privacy, natural light (location, potential usefulness, costs), direct fresh air
(a) Existing features: skylights, exhaust fans, windows, sky-lighted atriums, perimeter ventilation, interior courts, new wall fenestration locations.	Compatibility with essential functional requirements
(b) Too much outside awareness	Difficulty in upgrading vs buildings with little or no fenestration
(c) Small, permanent-type warehouses, service buildings in good locations	Prime for upgrading
<b>(7) Interior Flexibility</b>	Interior flexibility is enhanced by combining relatively stable interior functional spaces and support and building service areas and locating them in or near existing or proposed interior fixed partition spaces. Also, by consolidating entrances and stairs with existing/proposed mechanical equipment space, which is located on building perimeter, vertical supply shafts can be easily expanded to supply either new or relocated functional areas or future additions
(a) Location of fixed partition spaces: mechanical equipment space, toilets, stairs, major and minor entrances and corridors	
(b) Building form	
(c) Adjacent site area	

Figure 5-6 Desirable Space Configuration

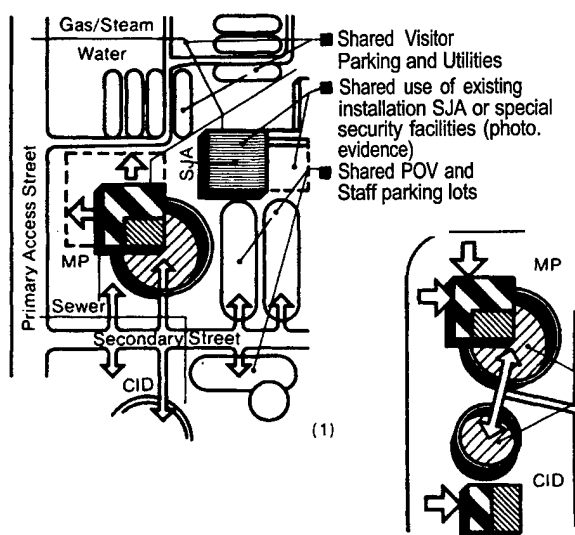


**d. DESIRABLE BUILDING AND SITE CONDITIONS**

Existing facilities, which are presently inadequate, are not considered to be viable candidates for upgrading. These facilities should be avoided unless the potential exists for either relocating other existing facilities or providing new facilities through partial construction. In all cases, the adaptability of existing building form, the adequacy of floor area, and the suitability of space configurations to the functional requirements of military

police activities constitute the principal determinants of desirability. Simple building perimeters normally will present few, if any, problems in terms of the accomplishment of upgrading objectives. Therefore, irregular shapes have been chosen for Figure 5-7 to illustrate the more difficult conditions which should be avoided in determining the suitability of an existing building or site for use by military police organizations.

Figure 5-7 Building and Site Configuration



- The opportunity to share existing or potential support facilities is a desirable location factor. Shared facilities should be compatible with essential functional requirements for access and expansion and with operational objectives relating to cooperating agencies CID, MP, SJA.

Grouped secure areas and private access shared by related functional activities.

## 5-4

### Establishing Project Sequence

**a. GENERAL** Project sequence refers to the step-by-step order in which facilities are transformed or upgraded to the desired standard of operations. In determining the sequence in which modernization and improvement work will take place, the using service must consider the impact of relocation or rehabilitation on the overall effectiveness of police operations. When identifying project requirements, the using service should also consider the actual physical constraints and opportunities that are imposed by various alternatives for upgrading existing facilities in identifying requirements, the using service should indicate the immediate and short-term impact that various construction activities may have on the on-going day-to-day operations of military police facilities. The space organization principles contained in Chapter 4 of this guide should be used in conjunction with the following guidance as the basis for determining the appropriate sequence for upgrading.

**b. BASIC REQUIREMENTS** In all cases, the sequence in which individual upgrading projects are accomplished must insure and maintain the effectiveness of the military police functions according to the following order:

- (1) On-Duty desk and operations office activities and the essential support functions of operations administration;
- (2) Military police capability to respond to serious incidents.
- (3) Custody of detainees.
- (4) Security of evidence and military police records and files.
- (5) Operations support activities such as briefing and training, witness or complainant reception and interviewing (temporary facilities might be provided),
- (6) The primary supervisory and administrative functions of provost marshal activities (temporary facilities might be provided).

**c. CONCURRENT AND CONFLICTING IMPROVEMENTS** The impact that a predictable sequence of upgrading activities has on the on-going operation of military police facilities will usually influence the achievement of a functionally effective organization of space - one which satisfies both immediate and long-term functional requirements. Interruption of functional activities caused by improvement of one or more activity areas may have a serious negative impact on the effectiveness of other functions not requiring improvement, with the net result being a general loss of effectiveness. Thus, to avoid the negative aspects of concurrent or conflicting

upgrading work the relocation of those on-going functions essential to effective operations should be considered as a first step where,

(1) Two or three concurrent upgrading activities may isolate or otherwise render ineffective a critical operational activity that does not presently need upgrading.

(2) The functional effectiveness of adjacent or related activities can be so impaired and disrupted by the disturbance of extensive upgrading work even though their present location properly relates them to either dependent or supervisory activities.

## 5-5

### Special Design Guidance

**a. GENERAL** Some adjustment in the general planning and design criteria used to develop pre-design concepts for new military police facilities (Chapter 3 and 4) will be required to reflect considerations peculiar to modernization and improvement projects. In some cases mechanical and technical criteria may require a local interpretation. Where exceptions to stated criteria or requirements are necessary, they should be identified prior to the establishment of planning requirements. Exceptions to construction requirements that will result in improvement or elimination of functional deficiencies in an existing facility or site, should be considered as an essential requirement for an effective project. In some cases, exceptions may be necessary to the accomplishment of long-range operational objectives.

**b. BASIC GUIDANCE** In the determination of appropriate design concepts avoid establishing initial project constraints that might limit or otherwise impede the development of functionally effective facilities. For example, once the determination of an appropriate upgrading strategy is made such as either conversion or rehabilitation avoid limiting design options. It will be necessary to indicate the appropriate combination of strategies and sequence of work for a given upgrading alternative. This is particularly important where project or program limitations are such that specific upgrading work must take place within a severely constrained time schedule. In such cases project development guidance should include a well defined set of step-by-step procedures for each upgrading alternative. These instructions might serve to speed the design process by defining the area of applicability for specific upgrading alternatives such as conservation, partial renovation, and new construction as well as the conversion of unoccupied space. As an example, step-by-step procedures might be required for a physical development strategy that calls for the expansion of existing activities into adjacent found space via newly constructed Intervening space. Projects such as this may require exceptions to specific construction



criteria in order to allow, for example, the planning of new mechanical systems and utility services for existing sub-standard facilities which will not be immediately upgraded, or incremental development over an extended period of time for such site requirements as visitor and staff parking, vehicular and pedestrian access and circulation, and landscaping. Special design requirements for upgrading existing facilities should be established only after consideration has been given to the general design guidance and the criteria contained in Section 5-7.

**c. SPECIAL DESIGN PROCEDURE** The using service is responsible for the development of the specific background information, design guidance, and functional requirements necessary for the preparation of pre-design concepts. Design procedures for rehabilitation/conversion projects differ from procedures related to the construction of totally new facilities in that the using service has more flexibility in determining the control of project accomplishment. However, this flexibility can be lost when design procedures do not provide for the full development of at least two or possibly

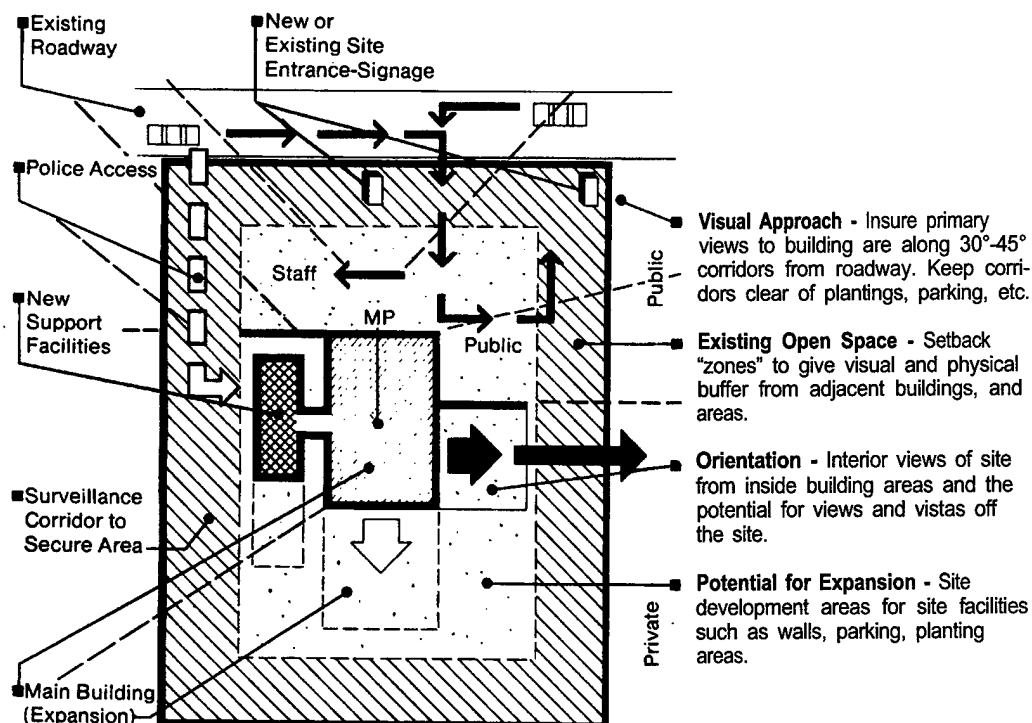
three alternative pre-design concepts for a given upgrading requirement. It may be necessary to seek technical assistance in the development of such design alternatives.

**d. PRE-DESIGN CONCEPTS** The following factors should be considered in developing pre-design concepts for modernization and improvement projects:

**(1) Long-Range Upgrading Strategies** The using service must keep in mind at all times that future expansion and flexibility can be jeopardized by certain project limitations. Such limitations relate primarily to short-term piece-meal authorizations for individual facility and site improvements. Also, budget limitations may inhibit the provision of project features that reflect the need for future expansion of the entire facility over the long-term. Cost escalations for long-range projects and comprehensive planning must be considered as the principal ways of avoiding these problems.

**(2) Special Operational Relationships** Functional relationships to related activities such as CID or SJA

Figure 5-8 Site Elements



are often influenced by the physical development plans of these agencies. For example, cooperative or supportive basis, that would lessen or obviate the need for certain upgrading programs, or may in effect determine the need for others. Opportunities to develop shared-use facilities or to provide functional assistance to certain activities should be identified prior to the improvement of existing obsolete facilities, especially where such opportunities may influence the location of MP facilities.

**(3) Exceptions to Construction Criteria** Exceptions to specific construction criteria are usually provided for by most project development procedures. However, exceptions to generally applicable construction criteria or to local installation requirements governing site planning and design should be sought only for projects where the primary objective of achieving functional and operational effectiveness would otherwise be significantly jeopardized. In general, such exceptions will be made only after reviewing the merits of alternatives and the specific impact that adherence to governing criteria would have on the accomplishment of essential project objectives.

## 5-6

### Establishing Design Requirements

**a. SITE-PLANNING CONSIDERATIONS** Site-planning requirements for individual projects are established on the basis of the physical development objectives approved by the local using service. Generally, individual site planning requirements can be identified by a comprehensive survey of the existing conditions using project objectives and limitations as guidelines. Basic project limitations, however, may prohibit the achievement of maximum site development standards. This is particularly true of rehabilitation work on designated facilities occupied by MP activities. In most cases, location constraints preclude major alterations to the layout of existing site elements. Taking such constraints and limitations into account, every effort must be made to achieve the highest possible standard in improving site-planning. Site elements which usually require improvement include major points of vehicular and pedestrian access, site circulation, and major overhead and underground utility lines.

**b. SITE ELEMENTS** As shown in Figure 5-8, there are several areas of an existing site which should be provided for but upon which little development should occur. The following site elements are important for the open space which they represent:

**(1) Easements** Depending on the specific requirements for expansion and flexibility related to individual rehabilitation/conversion projects, the design and development of site elements which provide

easements or dedicated areas should generally reflect the need for future building or site expansion. Existing landscaping or the new site planting which is identified as a project requirement should not unduly obstruct the future development of dedicated areas. Easements should provide accent and interest. This can be achieved by planting low to medium shrubs adjacent to either new or existing walk areas. Possible expansion of existing or future facilities may dictate the need to relocate existing shrubs.

**(2) Buffer Zones** Another area of the existing site which should be designated as an area unavailable for construction activity is the general area adjacent to the project boundaries. Buffer zones or setbacks are important site-planning provisions that allow proper breathing room and separate an existing facility from adjacent uses. This is especially important for a military police facility due to the nature of security and confidential operations. The specific setback distances shown in the illustrative examples in Chapter 6 of this guide should be considered as minimums and not preferred distances. Preferred distances for rehabilitation/conversion projects should be as large as existing conditions warrant, taking into consideration the proximity and nature of adjacent uses and the presence of existing trees or other plant material. Existing roadways and parking areas should be located at a minimum of 20 feet from project boundaries. Single story structures should maintain a minimum separation of 60 feet. Where two-story structures exist, they should be a minimum of 80 feet apart. Where one and two-story structures are adjacent, they should be a minimum of 70 feet apart. These minimum dimensions for buffer zones should be observed where functional requirements do not mandate an increase in physical separation. Increases in the minimum distance for separation might be required where optimum locations are constrained by inappropriate or conflicting adjacent activities that encroach upon the effectiveness of the operational environment.

**(3) Visual Approach** Persons approaching a military police facility by car normally view the building from an oncoming angle of from 30 degrees to 45 degrees, rather than from directly in front. An opportunity to provide this oblique view of existing facilities is necessary to give the appropriate advance identification needed for turning into the entrance drives. For this reason, the location of existing or projected site elements such as parked cars, eye-level flowering trees, or groups of evergreen plantings that might obscure views of site signage or activity indicators located in these areas either should be avoided or, if already existing, should be removed to avoid obstruction of the visual approach. In addition, groups of existing trees should be selectively thinned and pruned to permit easy viewing of site information from on-site vantage points. Special at-

tention to the need for general site visibility will be important in providing electronic or mechanical surveillance and physical security requirements.

**(4) Access** The establishment of design requirements relating to points of access will depend on the particular character and intensity of operations as established by pre-planning decisions and on the site-specific development opportunities identified during the site selection process. Generally, vehicular and pedestrian access to existing rehabilitated or converted facilities must reinforce functional objectives relating to a clear and logical separation of visitor/staff circulation. Site planning and building orientation factors should be used to determine the proper design, location, and in some cases, the relocation and redesign of site elements such as access roads, on-site drives, various classifications of parking and pedestrian walkways. The development of specific site planning considerations for the various types of access, such as public, private, staff and service access will be assisted by referring to the guidance contained in Chapters 2, 3, and 4.

**(5) Site Circulation Systems and Parking** Existing or redeveloped site conditions should allow safe and convenient pedestrian and vehicular circulation. Existing or redeveloped parking systems should provide a clear distinction between various types of groups and individuals who might use the existing upgraded facility or converted non-designated facility. Desirable layouts of existing roads, parking, and walkways should be adopted only where they are consistent with established requirements for security and efficient operation and where they avoid locations directly over underground utilities. The redesign of pedestrian and vehicular circulation systems should conform to the guidelines contained in DOD Construction Criteria Manual 4270.1-M, TM 5-803-3, and TM 5-822-2. Specific site circulation criteria contained in Chapter 3 offers additional guidance.

**c. LANDSCAPE PLANTING** The importance of landscape planting depends primarily on the physical characteristics of an existing site and on the requirements of individual rehabilitation/conversion projects. Budget limitations and priorities for physical upgrading of an existing site will also influence the position of importance landscape planting has in the project development process. In all cases, however, landscape planting should be considered as a positive, effective, and, in some instances, essential means of accomplishing functional and operating objectives. For example, the use of landscape planting is often an effective element in attempts to reduce both the heating and cooling requirements and related operating costs of facilities. The use of a variety of landscape planting techniques can increase the overall attractiveness and design image of existing facilities while at the same time provide requirements for confidential screening, weather protection and sun-

screening. The relative attractiveness of site access points, building approaches and entrances to existing facilities usually influences the appreciation and respect for the services provided within. See Chapter 3 for additional guidance.

**d. SITE LIGHTING** Existing sites and facilities may not provide for or conform to even the minimum site lighting requirements that are consistent with physical security and operational effectiveness. In such cases, the provision of adequate lighting for operation areas must be a high priority objective of rehabilitation/conversion projects. Generally, the provisions for site lighting will depend both on the scope and extent of requirements for site and facility upgrading and on the level of sophistication allowed by project authorizations. Such provisions should conform to the criteria established in Chapter 3 of this guide.

**e. SITE SIGNAGE** The upgrading of existing facilities can be positively assisted by the use of site signage. Where rehabilitation/conversion projects are primarily concerned with the upgrading of presently occupied space, the use of site signage can greatly increase the control and separation of visitor traffic without major effort and within a short period of time. In all instances, the use of site signage and picto-graphic symbols should be coordinated with interior signage systems to effect design and information consistency. General criteria for site signage applicable to rehabilitation/conversion projects is provided in Chapter 3.

**f. SITE FURNITURE AND EQUIPMENT** Two categories of site elements, site furniture and site equipment, will usually be required by rehabilitation/conversion projects. Typically, these site elements are provided in order to facilitate or augment the operational effectiveness of functional activities. Site equipment is considered to be an outside operational requirement that must be provided for where specifically identified. Site equipment includes: transformers, electric poles, mechanical vaults and various types of MP operational equipment as well as utility meters. Items such as bollards, curb markers, relocatable signs, and other outside functional elements are considered to be site furniture. While essential requirements may exist for certain items in both categories, provision of site furniture for rehabilitation/conversion projects will be subject to the overall limitations and priorities of a specific construction program. Initial requirements for site furniture can be minimized by the re-use of existing features or the use of surface techniques such as pavement painting or changes in surface or ground material. This type of minimal requirement will generally occur where subsequent site upgrading projects provide for the acquisition of new site furniture. Where site furniture is provided, it should be coordinated with other visually identifiable site elements. Project limitations may eliminate the possibility of acquiring new site furniture or require that

existing items of site furniture, which are adequate and otherwise meet basic functional requirements, be retained and upgraded. In cases where new and existing site furniture and equipment are combined, a coordination of surface, color and shape between new and existing items is important to the establishment of a harmonious group of site elements. The scale and aesthetic of site furniture should be related to the materials, forms, and details used in the upgrading of the existing building.

**g. EXISTING UTILITY SUPPORT** The capacities of existing site utilities should be sufficient to support current and projected operational requirements. Local Facilities Engineering personnel will assist the using service in making a final determination as to site suitability. In making an initial estimate, the utility inventory report for a specific site or facility contained in the Installation Yearly Real Property Survey will be a reliable source of information. Additional utility support may be required when comparisons are made between the preliminary estimates of building requirements and presently available utility support. Probable requirements can be derived from the mechanical and utility requirements presented in the example designs in Chapter 6. Estimates of requirements for an entire military police facility should take into account local variations in the design assumptions relative to orientation, climatological conditions and the engineering value of various construction materials. By factoring in the proportion of new construction requirements represented by the area of activities requiring upgrading, partial requirements for rehabilitation/conversion projects can be determined. Where utility support is substantially inadequate, technical assistance in the form of engineering studies will be required to determine the magnitude of such additional requirements. This is especially important if, all other factors considered, the site in question remains the best choice of location of military police activities. A primary objective of such engineering studies should be to isolate the mechanical and utility requirements directly associated with such limited upgrading for the purpose of comparing costs. Engineering studies should also indicate the best method of providing the new mechanical and utility services. In all cases, utility support should be provided in such a way that subsequent or future upgrading and expansion will be possible without utilizing obsolete utility systems or impairing the effectiveness of those that are adequate. Guidance related to typical utility systems is provided in Chapter 3 of this guide.

**h. RELOCATION OF EXISTING SUPPORT FACILITIES** Where adequate utility and support facilities exist, their location should not interfere with the accomplishment of rehabilitation/conversion objectives or the provision of essential building/site elements. Where the existing location of utilities, roads, drives sidewalks, paved terraces, or other support facilities would prohibit

operational efficiency and the accomplishment of basic functional objectives, they should be relocated. Siting of relocated facilities should be indicated on the rehabilitation/conversion site plan and should be in accordance with currently accepted standards for support facilities.

**i. REDESIGNING EXISTING FACILITIES** Existing non-designated facilities generally have an established architectural character, albeit one may be inappropriate to the architectural and functional requirements of military police activities. Chapter 3 provides fundamental design guidance and outlines the principal design factors that should influence the establishment of an appropriate architectural character. Specific functional requirements will be used to determine the extent to which an existing facility's design or space arrangement is inadequate. Specific functional requirements will also be used to determine the scope of required redesign and will influence the order in which individual steps are accomplished in the rehabilitation/conversion process. Environmental and interior design considerations, individual space criteria and space organization principles should be evaluated to determine the specific redesign recommendations and sequence for work in rehabilitation/conversion projects. The general design requirements for new construction contained in Chapters 4 and 5 offer additional guidance for the establishment of specific upgrading requirements.

**j. TYPICAL FIELD APPLICATION OF DESIGNS** The description of typical field conditions contained in this chapter, as well as the example designs for new construction contained in Chapter 6 provide general planning and design guidance for the accomplishment of rehabilitation/conversion projects. In terms of applicability to pre-design concepts, the hypothetical space programs for new construction (Chapter 6) provide an appropriate point of reference for determining zone or component requirements for existing facilities. Functional requirements for a given scale of operations remain comparable irrespective of the physical conditions and facilities for which they were developed. However, the direct or exclusive use of example requirements alone will not provide an adequate justification for project-specific requirements. The general design guidance for new construction and the illustrative examples of new construction requirements will become the primary source for project justification only when they are adapted to the requirements of existing conditions and used in conjunction with appropriate upgrading alternatives. The upgrading of existing facilities must at all times respond to the physical character, the planning and design constraints, and the project limitations that are peculiar to rehabilitation/conversion projects. Although upgrading may respond to requirements in ways that reflect a more individual approach to physical development than is desirable for new construction, it should result in the same high standard of design.

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# Chapter 6

## 6-1

### General

**a. GENERAL** This chapter illustrates how the general planning and design guidance presented in Chapters 3 and 4 might be applied to three examples of different requirements for physical development. The functional programs for the three examples indicate various intensities of operation, and provide representative planning and design guidelines based on hypothetical project requirements. Those hypothetical requirements are used in the development of each example space organization concept. They also form the basis for the facilities-planning diagrams and design development sketches provided for each illustrative example.

**b. ACTUAL PROJECT GUIDANCE** The actual guidance used to identify planning and design criteria, to establish physical, functional and environmental requirements, and to evaluate the satisfaction of project objectives must be based on the individual and mission peculiar requirements of specific MP activities and related to a given strategy for physical development. In developing the illustrative guidance for the three example designs, a clear distinction has been made between requirements of a specific organizational component and those of an individual functional activity. Though individual functional requirements are not fully developed in each example design, they can be identified by coordinating the allocation standards provided by the hypothetical component space classifications with the space organization principles and criteria contained in Chapter 4.

**c. GENERAL PLANNING GUIDANCE** The general planning guidance in each example design is based on programming factors such as: staff composition, organizational structure, and physical development requirements consistent with a hypothetical set of functional and operational objectives. Space organization principles illustrated in all three example designs are based on established organizational and functional needs (Chapters 2 and 4) and on requirements for the design and construction of military police facilities (Chapter 3).

**d. PHYSICAL CHARACTERISTICS** The physical characteristics of each illustrative example express both hypothetical project requirements and organizational development strategies. The physical, spatial, psychological or cultural character of a military police facility can be based on a variety of factors: the different physical and environmental requirements for operational and administrative support activity areas; the perceived

distinction between public, private and confidential activity areas; or the aesthetic treatment of the entire facility. It is important to recognize that a judgment as to the desirability or appropriateness of various physical characteristics will depend on project development constraints, on design opportunities for a given location, and on the individual requirements.

**e. DESIGN CHARACTERISTICS** The illustrative examples express general design characteristics of relevance to a wide range of military police organizations and component activities. These characteristics reflect a consideration of the overall design guidance contained in previous chapters. Detailed guidance may be found under the appropriate sections of Chapter 3, General Planning and Design Guidance and Chapter 4, Space Organization Considerations.

**f. ENVIRONMENTAL CHARACTERISTICS** In applying either general planning and design criteria or the guidance contained in the hypothetical project requirements of each example design, careful correlations should be made between illustrative and actual individual functional activity requirements. It is important to note that the illustrative examples reflect only gross environmental and functional requirements. Detailed requirements must be developed both on a space-by-space basis and for the entire facility, utilizing the design criteria provided in this guide.

## 6-2

### Illustrative Example A

**MP Operations and Administration Facility Large  
Base Population: Greater Than 20,000**

**a. ORGANIZATIONAL DEVELOPMENT** This example illustrates a strategy of development for a hypothetical major MP operations and administration activities center. The total number of people required to staff the TOE/TDA units authorized for this large scale military police organization is typically more than 70 temporary and permanent duty military and civilian personnel. To illustrate the planning and design requirements for this level and intensity of operation, a new MP station facility has been planned to accommodate approximately 114 administrative and operational personnel whose functional activities will eventually be consolidated. This facility will serve as installation and unit

support service headquarters for military police administrative and operational activities. As a principal advisory activity supporting the installation Commander and Corps Headquarters and as the major subordinate activity of the Directorate of Personnel and Community Activities, the MP station will occupy a prominent position in the physical organization of the planned Personnel Services and Community Activities Center.

**b. RELATED ACTIVITY RELATIONSHIPS** A study of functional activity and working relationships developed in the programming phase has indicated that several operational/fixed post units can remain located elsewhere without detriment to the efficient functioning of MP operations.

**c. LONG-RANGE DEVELOPMENT** As comprehensive long-range development of the personnel services and community activities center complex takes place, and as law-enforcement technology and operational techniques change and develop, the presently excluded functional activities, as well as additional specialized support activities and subordinate MP training and tactical activities will be consolidated in the area of the MP station facility by a phased incremental expansion of both administrative and operational facilities. The long-range physical development program also includes expansion of requirements for the increasingly important role of special community education activities required by individual planning units as well as the shared-use and special facilities required by specific troop support and training activities. In terms of the specific short-range planning and design requirements for physical and organizational development, the requirements for troop support and training activities have not been considered as part of the MP station beyond basic provisions for expansion, which involve siting and orientation of primary and support facilities. However, the future needs of an MP organization are considered to be essential to the long-range effectiveness of both critical operations and specific mission accomplishment. Therefore, the strategy for physical development includes long-range physical requirements as a primary planning consideration.

**d. DESIGN GUIDELINES** Comprehensive physical development guidelines for Illustrative Example A include the following concepts:

**(1) Physical Development** The overall physical development strategy for the functional activities of this specific MP station organization will require comprehensive planning and design for new facilities to be included with the physical development of a new Personnel Services and Community Activities Center (PSCAC). Medium-range and long-range organizational development strategies support the need to accomplish overall project requirements on a phased construction basis. The primary long-term physical development objective is the consolidation of all MP

station-related administrative, operational and subordinate MP troop support activities as well as MP Corps agencies whose colocation is essential to mission effectiveness. Command of the MP companies stationed at the installation is a major subordinate activity of the command provost marshal who operates from the MP station.

**(2) Site Development** Administrative and support facilities required by the installation command headquarters should be physically integrated with the PSCAC complex at ground level. An ideal site development situation would be the shared use of the primary approach and access point of the PSCAC complex with the MP activities contained in a physically identifiable facility not linked to the main structure. A slope gradient allowing ground-level access with direction of access visually separated by contour development and landscaping or by the natural utilization of a partially wooded site is ideal. Maximum site development is to be consistent with efficiency and economy of land use and the intensity of development designated by the overall master plan for the PSCAC complex. Because of the scale of operations required in the first phase of development and because consolidated operations will increase requirements, major traffic and pedestrian access to MP facilities must be separately provided and in some way be distinguishable from the primary access to the complex. Consideration must be given to increasing dependence on mass transportation as a means of access to all PSCAC facilities.

**(3) Facilities** The scope and complexity of physical needs require that efficiency and economy govern the design of both MP administrative and operational facilities. Distinctive site and building elements must be coordinated with the overall design of the PSCAC complex. Provisions should be made for maximum interior flexibility. A method of incremental expansion should be provided that is appropriate to the functional requirements and design objectives of future MP station activities. The total consolidation of post activities near the station facility will eventually require joint occupancy by other law enforcement and investigation activities. Where possible, common-use facilities such as parking should be so located that they can meet the long-term joint occupancy requirements efficiently and economically.

**(4) Individual Functional Requirements** (To be developed according to individual space criteria and the guidance for component activities). For specific guidance refer to Chapters 2 and 4.

**e. PHYSICAL DEVELOPMENT OBJECTIVES** In order to achieve a broad application of planning criteria for the full spectrum of required military police activities and to permit orderly expansion of component activity areas when required, a concept of space organization is proposed for the principle administrative and operational



activities and the general functional support areas required by individual military police activities. The basic development objectives of specific activity areas are:

- (1) The achievement of required planning and design standards and the development of a functionally integrated military police facility;
- (2) The maintenance of functional integrity within major component areas;
- (3) The ability to Separate and control circulation within and between major activity zones;
- (4) The definition of a clear order of movement from public to private to confidential activities;
- (5) The ability to provide special environmental and climatic conditions for critical operational activities with a minimum of cost and effort and with maximum effectiveness; and
- (6) The flexibility to expand operations to change police techniques without a major interruption in law enforcement activities.

**f. PHYSICAL AND FUNCTIONAL CHARACTERISTICS OF MAJOR ACTIVITY ZONES** The diagram below illustrates the basic physical and functional characteristics of major activity zones and the functional flow and supervisory relationships of component activities contained within the general activity areas listed below:

**Zone 1** - Provost Marshal Office: Includes those activities related to the direction of administrative operations and law enforcement activities

**Zone 2** - MP Services (Admin.), General Reception and Information: includes activities related to the control and direction of visitor traffic

**Zone 3** - M P Services (Ops): Includes those activities related to community services including registration, permits, licenses, and hunting and fishing control

**Zone 4** - MP Operations (Support Oriented): Includes those activities oriented toward the supervision of uniform motorized and foot patrol, law enforcement, criminal identification and military police investigations

**Zone 5** - MP Operations (Duty Oriented): Includes those police activities oriented toward the arrest and processing of offenders, the development of crime information and intelligence reports, and case development and processing by military police investigators and physical security inspectors, and military police communications and intelligence systems.

Figure 6-1 Physical Relationship Program

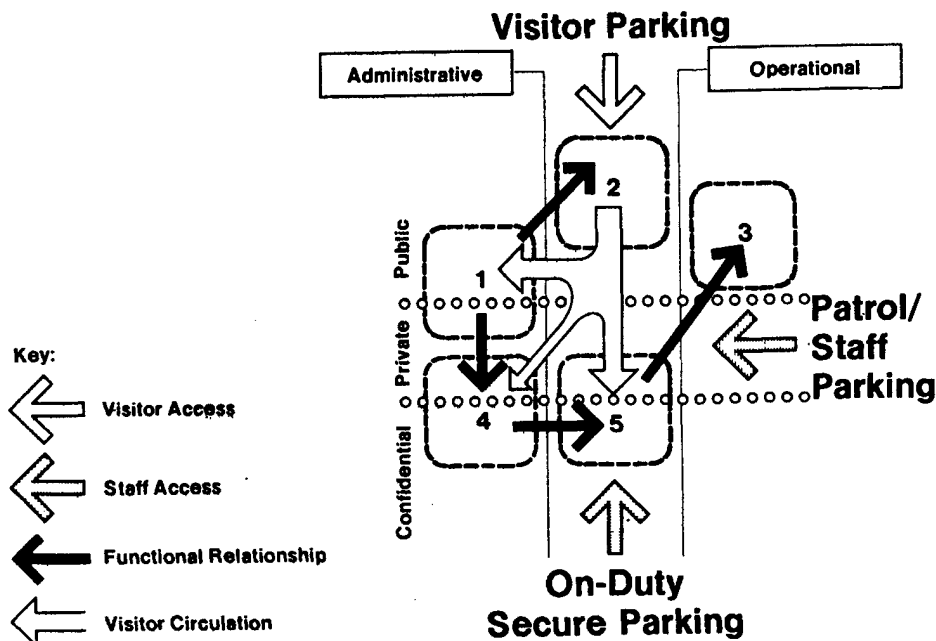


Table 6-1 Summary of Required Functional Activities

<b>Primary Facility</b>	17 Lockers/Showers for Male & Female
1 PM Office	18 Operations Storage
2 Community Relations	19 Public Entrance/Lobby
3 PM Admin. Support	20 Public Restrooms
4 Public Assistance	21 Staff Toilets
5 Community Activities	22 Staff Lounge
6 Registration	23 Staff Entrances
7 Traffic	24 Maintenance & Operational Supply Area
8 Operations Office	25 Mechanical Equipment
9 OPS Admin.	
10 Liaison	<b>Support Facility</b>
11 Community Services	26 Patrol/POV Parking
12 Absentee Control	27 Guardmount/Secure Parking/Impound Lot
13 Investigations	28 Operations Equipment Storage
14 Physical Security	29 Staff POV Parking
15 On-Duty Desk	30 Registration Services/Visitor Parking
16 Briefing/Training	31 Building Services Access (Loading Dock)

\*Female locker & shower space requirements will be ten percent of male locker & shower space requirement.

Figure 6-2 Functional Relationship Diagram

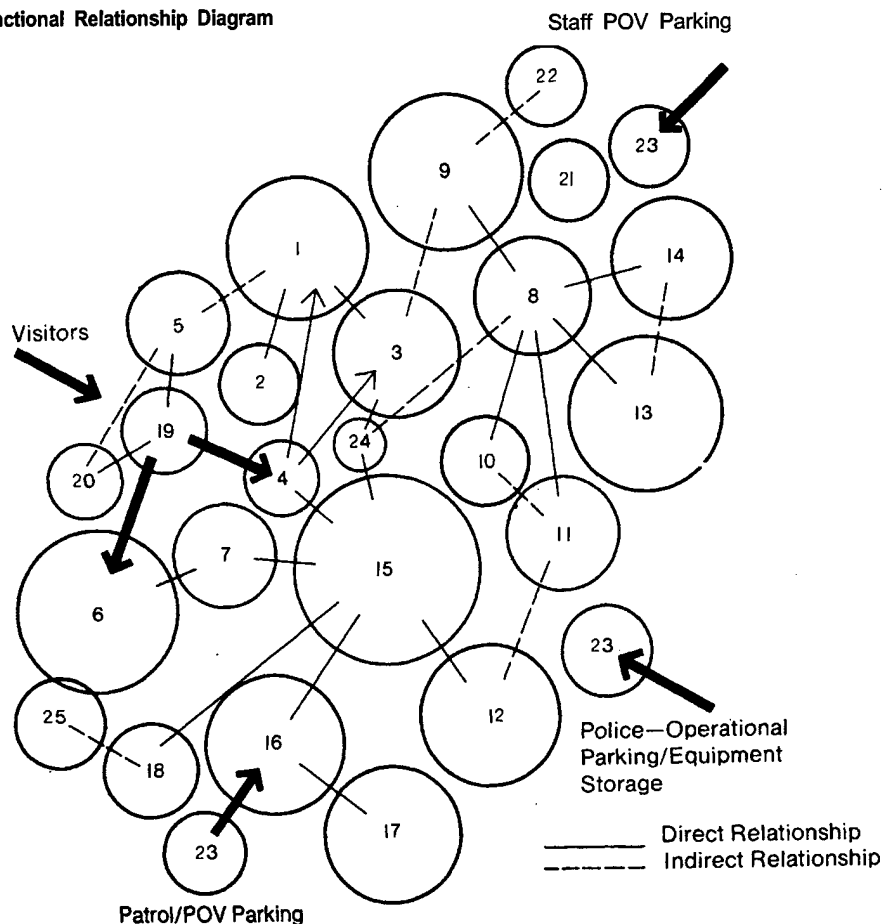


Figure 6-3 Area Planning Diagram

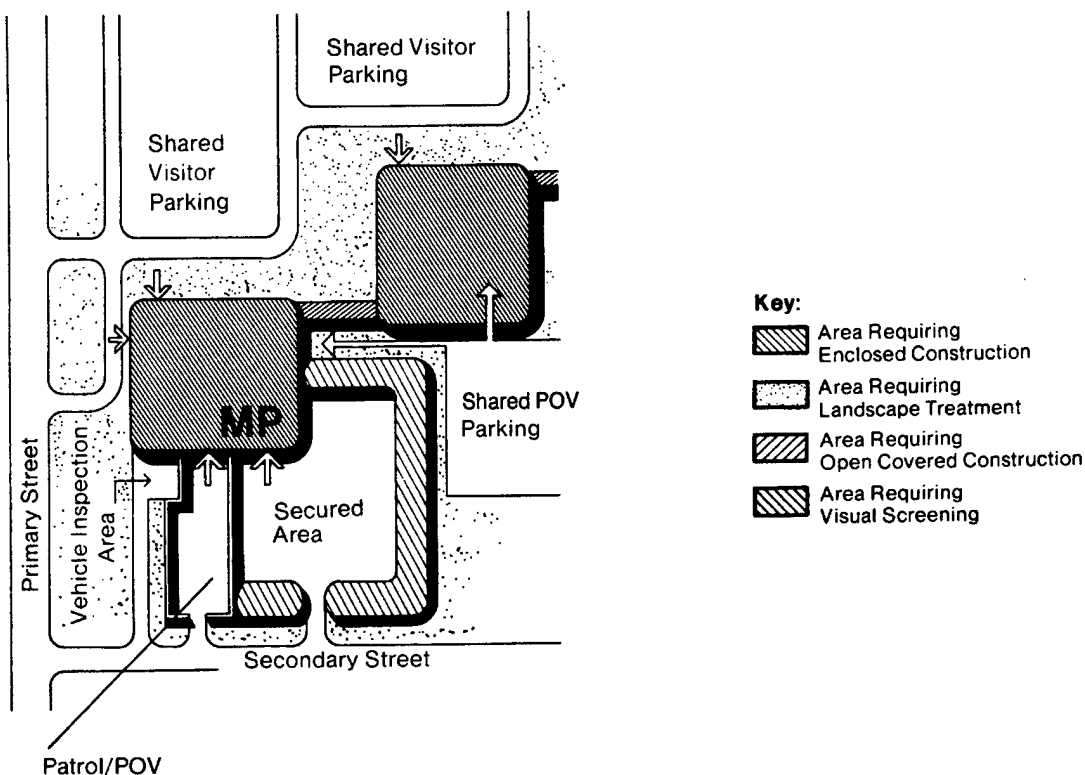


Figure 6-4 Building Elements Diagram

## Building Elements Diagram

**Key:**

- A — Zone 3 — Registration
- B — Zone 4 — Traffic
- C — Zone 2 — Public Asst.
- D — Zone 1 — PM/OPS Admin
- E — Zone 4 — Operations Office
- F — Zone 5 — Operations Support
- G — Zone 5 — Detention/AWOL
- H — Zone 5 — MP Desk
- I — Zone 5 — Physical Sec. and Investig.

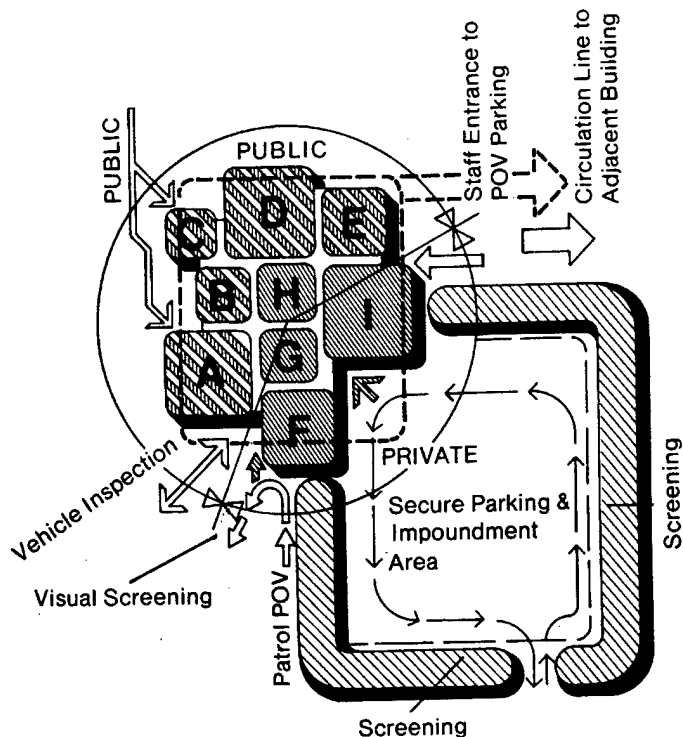
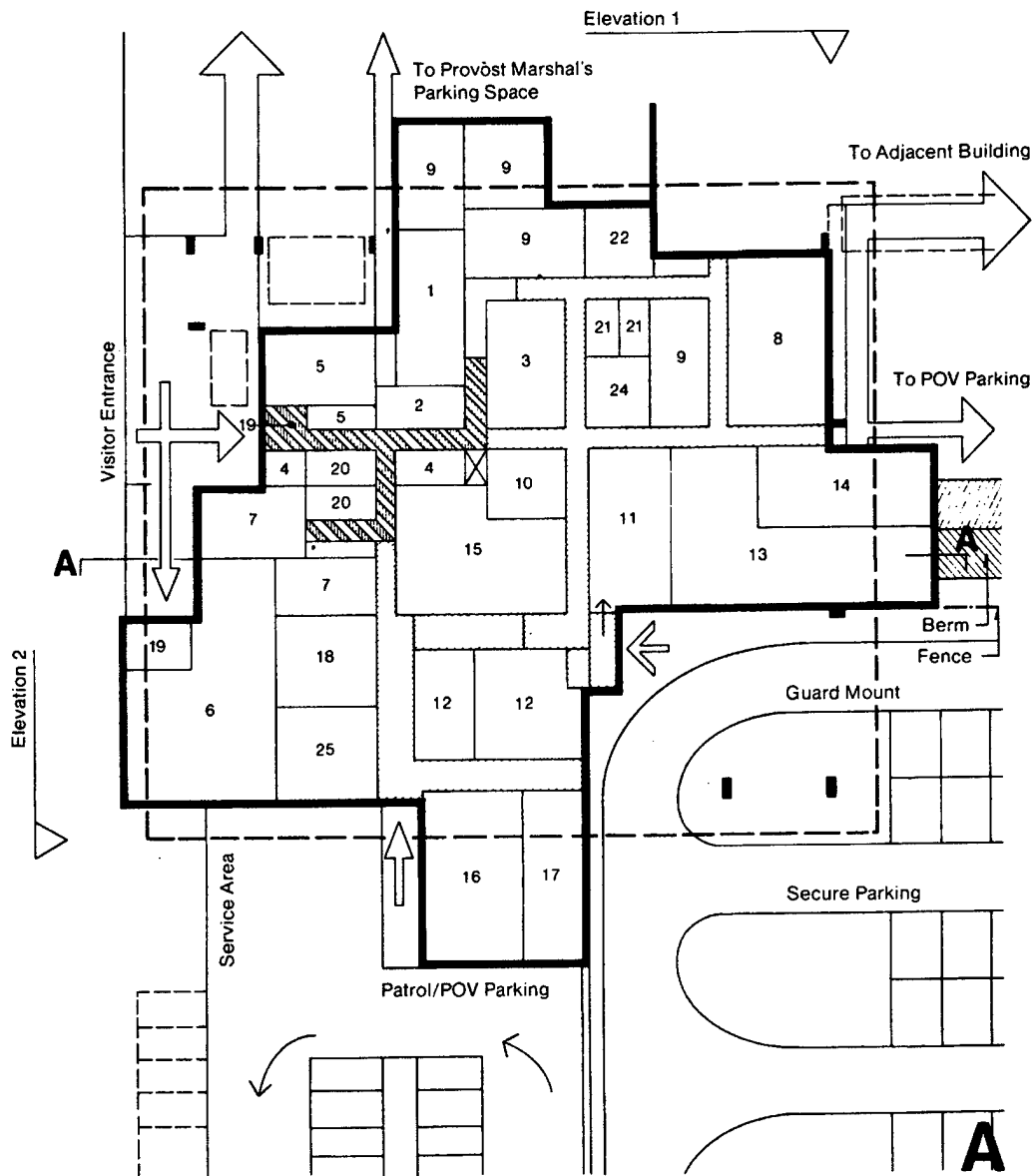


Table 6-2 Summary of Facilities Components  
Large Size Facility

	Facility Components	Staff	Space
Zone 1	<b>Provost Marshal Activities</b>	13	2,594
	1—Provost Marshal Office		
	2—Community Relations		
	3—PM Administrative Support		
	Total	13	2,594
Zone 2	<b>Military Police Services</b> (Administration Related)		
	1—Public Assistance		750
	2—Community Activities		1,650
	Total	(1)*	2,400
Zone 3	<b>Military Police Services</b> (Operational Related)		
	1—Registration Services Section	5	2,572
	2—Traffic Section	13	1,936
	Total	18	6,908
Zone 4	<b>Military Police Operations</b> (Operations Support Related)		
	1—Operations Office	5	1,030
	2—Operations Administration	25	4,668
	3—Operations Support Services		
	(a) Liaison Section	5	870
	(b) Community Service Section	5	1,188
	(c) Absentee Control/Detention	9	1,232
	Total	49	8,988
Zone 5	<b>(Routine On-Duty Related)</b>		
	4—Investigations	16	3,076
	5—Physical Security	8	1,340
	6—On-Duty Operations	6	2,750
	7—Operations Support Facilities	4	4,800
	(a) Briefing/Training/Lounge		
	(b) Lockers and Showers		
	(c) Operations Equipment Storage		
	Total	34	11,966
	<b>Net Functional Area</b>	114	30,456
	<b>Net Area Planning Factor</b>		3,046
	<b>Mechanical Equipment Area</b>		1,523
	<b>Primary Facility Requirements</b>	114	35,025
	<b>Functional Support Facilities</b>		
	Patrol/POV Parking		7,200
	Guardmount/Secure Parking/Impound Lot		24,000
	Operations Equipment Storage		500
	Staff POV Parking		21,500
	Registration Services/Visitor Parking		7,200
	Building Services Access (loading dock)		1,200
	<b>Open Space</b>		57,975
	<b>Access &amp; Circulation Space</b>		28,988
	<b>Support Facility Requirements</b>		148,563
	<b>Minimum Site Area Requirements</b>		183,588

Figure 6-5 Building Floor Plan



**Key:**

**Primary Facility**

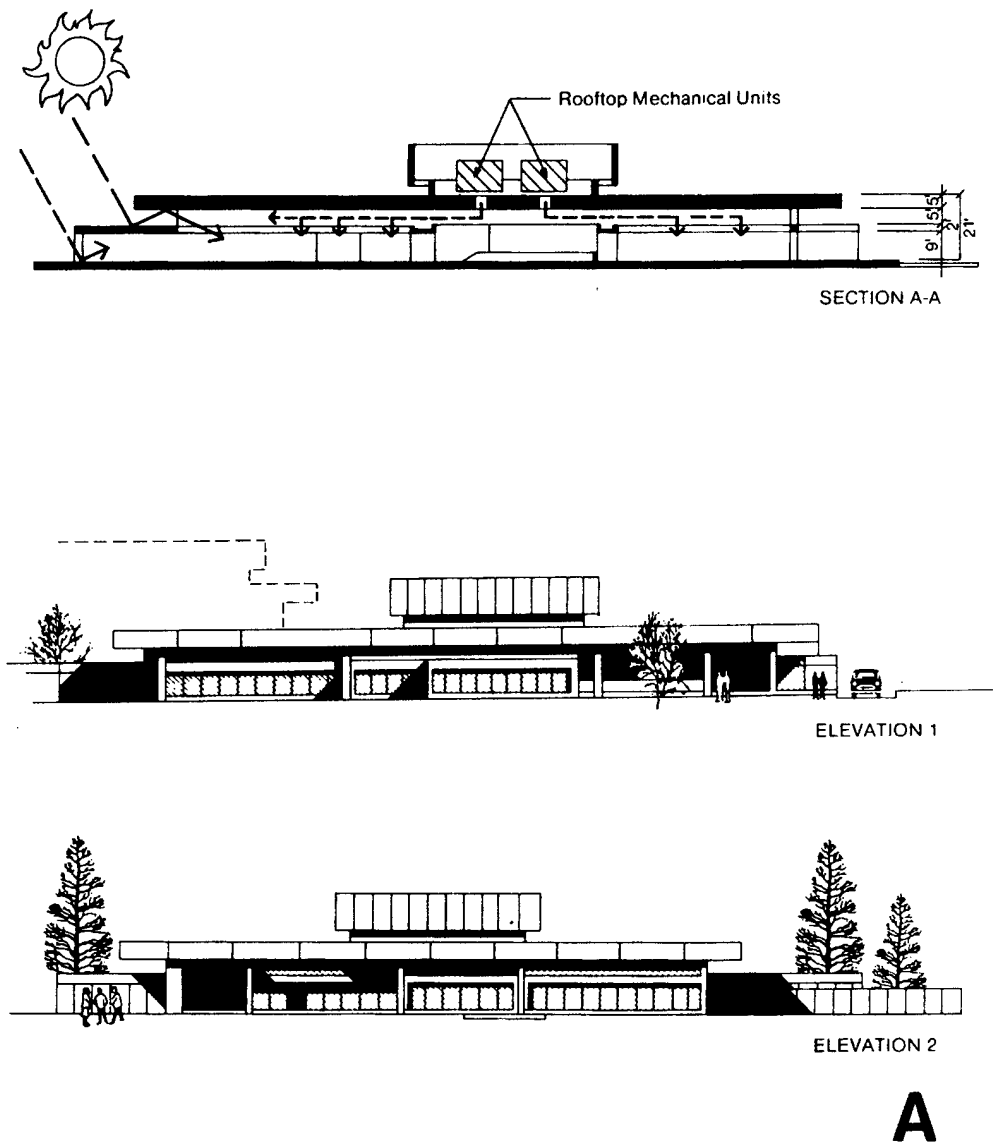
- 1 PM Office
- 2 Community Relations
- 3 PM Admin Support
- 4 Public Assistance
- 5 Community Activities
- 6 Registration
- 7 Traffic
- 8 Operations Office
- 9 OPS Admin
- 10 Liaison
- 11 Community Services
- 12 Absentee Control
- 13 Investigations

- 14 Physical Security
- 15 On-Duty
- 16 Briefing/Traffic
- 17 Lockers/Showers for Male & Female
- 18 Operations Storage
- 19 Public Entrance/Lobby
- 20 Public Restrooms
- 21 Staff Toilets
- 22 Staff Lounge
- 23 Staff Entrances
- 24 Maintenance & Operational Supply Area
- 25 Mechanical Equipment

**Support Facility**

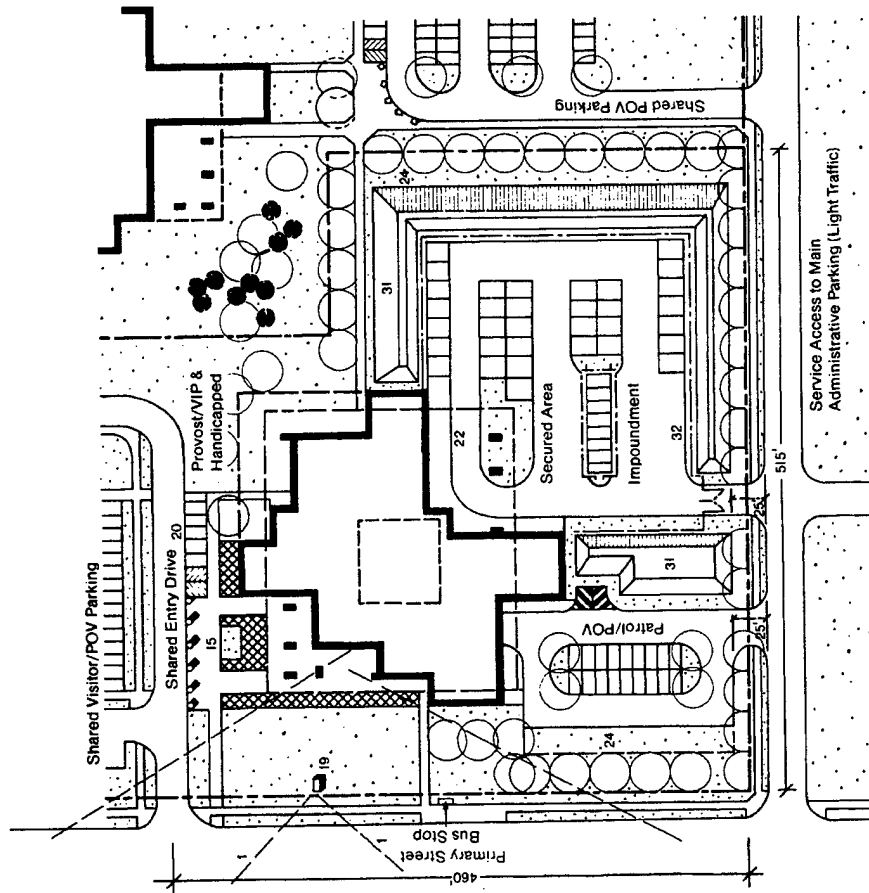
- 26 Patrol/POV Parking
- 27 Guardmount/Secure Parking/Impound Lot
- 28 Operations Equipment Storage
- 29 Staff POV Parking
- 30 Registration Services/Visitor Parking
- 31 Building Services Access (Loading Dock)

Figure 6-6 Elevations and Section



Design Guide: Military Police Facilities  
 Example Designs for Army Military Police Facilities: Illustrative Example A

Figure 6-7 Site Development Plan



Site Plan

- 1 Provide "visual approach corridors".
- 2 Provide angled paving at walk corners.
- 3 8' high wall to screen critical areas.
- 4 Provide 4' wide area between at walkways.
- 5 Provide directional signs that separate traffic.
- 6 Locate evergreen trees to protect building from the effects of prevailing winds.
- 7 Locate shade trees on south side of building.
- 8 Locate planting areas to break-up expanse of paving in large parking areas.
- 9 Locate planting to screen views into military police operational areas.
- 10 Locate shrubs or ground cover in areas too small to be maintained as lawn.
- 11 Provide moving strips along shrub beds, walls, and fences to reduce maintenance.
- 12 Provide pedestrian walkway lights.
- 13 Provide general roadway and parking lights.
- 14 Provide security floodlighting for MP areas located for unobstructed surveillance by pole mounted CCTV cameras.
- 15 Provide additional landscaping to establish desired character.
- 16 Provide drop-off zone adjacent to main entry.
- 17 Provide bollards to control traffic, identify drop-off zones, and allow curb-free access by the handicapped.
- 18 Provide adequate paved area within secure fence for occasional guard mount inspection.
- 19 Locate primary activity identification sign for easy visibility by oncoming vehicular and pedestrian traffic.
- 20 Provide designated or reserved stalls in public and staff parking areas for handicapped personnel.
- 21 Designated "official reserved parking" in public and staff parking areas.
- 22 Provide service access area with a wide turning radius for rear unloading.
- 23 Locate large shade trees on perimeter of parking areas as a buffer for paved areas.
- 24 Locate shade trees along edges of "visual approach corridors" at main public access points.
- 25 Provide shade trees on south and west sides of site to screen direct sunlight.
- 26 Provide low shrubs where unobstructed view is required.
- 27 Provide landscaping at police entrances to enhance frame access points and to soften visual impact in transitional spaces.
- 28 Locate small shade trees in parking areas to screen reflected sunlight.
- 29 Locate evergreen trees along site boundary or perimeter of buffer zone.
- 30 Preserve existing or undisturbed natural landscape.
- 31 Provide earth berms as visual screens.
- 32 Provide security fencing for operations.

## Site Development Considerations

## 6-3 Illustrative Example B

### Military Police Operations and Administration Facility Medium Base Population: 8,000-20,000

**a. ORGANIZATIONAL DEVELOPMENT** This example illustrates a specific approach to physical development for a hypothetical medium sized MP operations and administration activities center. The total number of people required to staff the TOE/TDA units authorized for a medium scale organization is typically 30-70 temporary and permanent duty military and civilian personnel. However, to illustrate how planning and design requirements might be developed for a slightly larger project, the new MP facility for this installation has been planned to accommodate approximately 80 administrative and operational personnel positions. This facility will serve as installation and unit support headquarters for military police administrative and operational activities serving both on and off-post military and civilian populations. As a principal advisory activity supporting the installation commander and as a major subordinate training activity of the installation, the MP station will occupy a prominent position in the physical organization of both community service and criminal justice facilities.

**b. FUNCTIONAL RELATIONSHIPS** A study of functional activity and working relationships developed in the programming phase has indicated that a close physical relationship to the local CID activity would enhance the effectiveness of Military Police operations.

**c. LONG-RANGE DEVELOPMENT** As comprehensive long-range development and consolidation of criminal justice and police support activities takes place, and as law-enforcement technology and operational techniques change and develop, the present functional activities as well as additional specialized support activities, such as SJA and special security operations will be consolidated in the area of the MP facility on a phased construction basis. The long-range physical development program also includes expansion of requirements for the increasingly important role of special community education activities required by individual operational units as well as the shared use and special facilities required by specific law enforcement and crime prevention support and training activities. In terms of the specific short-range planning and design requirements for physical and organizational development, the requirements for shared or joint operational support facilities have been considered as part of the basic provisions for expansion. They are considered to be essential to the long-range effectiveness of both critical operations and specific mission accomplishment. Therefore, the strategy for physical development should recognize these long-range physical requirements as primary planning considerations.

**d. DESIGN GUIDELINES** Comprehensive physical development guidelines for illustrative Example B include the following concepts:

**(1) Physical Development** The overall physical development for the functional activities of this specific MP organization will require comprehensive planning and design for new facilities. Medium range and long range organizational development strategies support the need for a phased construction schedule. The primary long-term physical development objective is the consolidation and shared use of related operational and subordinate troop support activities essential to mission effectiveness.

**(2) Site Development** The site location is on the perimeter of the main post area. The operational support facilities required by this activity, such as operational vehicle access routes and secure parking should be directly related as shared facilities to related functional activities and traffic areas CID Field Office facilities will share an access road for operational vehicles located on the secondary road. The main public access will be from the intersection of two primary circulation routes; one a major four lane road that serves as the main route for installation rapid transit. Pedestrian access for staff and visitors should be located near this route. Vehicular and pedestrian traffic will be separated and visitor, POV and operational parking will be developed as discrete support facilities using a variety of screening techniques. A large open but secure area will be required for guard mount activities. This is in addition to the general requirements particular to the secure area. Expansion is projected for certain administrative and operational activities and should be provided for by unobstructed site development. Physical development constraints caused by requirements for expansion and building space flexibility together with the scale of adjacent facilities suggest the need for a multi-story (2 level) scheme for space organization. This is a desirable project objective in that site conservation is a primary objective of installation master planning within the main post area.

**(3) Facilities** The scope and complexity of physical needs require that efficiency and economy govern the design of both MP administrative and operational facilities. Distinctive site and building elements must be coordinated with adjacent facilities. Provisions should be made for maximum interior space flexibility. A method of incremental expansion should be provided that is appropriate to the functional requirements and design objectives of future activities. The consolidation of police activities near the facility will eventually require joint occupancy by other law enforcement and investigation activities. Where possible, common-use facilities should be so located that they can meet long-term joint occupancy requirements efficiently and economically.



(4) **Individual Functional Requirements** (To be developed according to individual space criteria and the guidance for component activities). For specific guidance refer to Chapters 2 and 4.

**e. PHYSICAL DEVELOPMENT OBJECTIVES** In order to achieve a board application of planning criteria for the full spectrum of required military police activities and to permit orderly expansion of component activity areas when required, a concept of space organization is proposed for the principal administrative and operational activities and the general functional support areas required by individual military police activities. The basic physical development objectives of specific activity areas are:

- (1) The achievement of required planning and design standards and the development of a functionally integrated military police facility.
- (2) The maintenance of functional integrity within major component areas.
- (3) The ability to separate and control circulation within and between major activity zones.
- (4) The definition of a clear order of movement from public to private to confidential activities.
- (5) The ability to provide special environmental and climatic conditions for critical operational activities with a minimum of cost and effort and with maximum effectiveness.
- (6) The flexibility to expand operations or change police techniques without a major interruption in law enforcement activities.

**f. PHYSICAL AND FUNCTIONAL CHARACTERISTICS OF MAJOR ACTIVITY ZONES** The diagram below illustrates the basic physical and functional characteristics of major activity zones and the functional flow and supervisory relationships of component activities contained within the general activity areas listed below:

- Zone 1** - Provost Marshal Office: Includes those activities related to the direction of administrative operations and law enforcement activities
- Zone 2** - MP Services (Admin.), General Reception and Information: Includes activities related to the control and direction of visitor traffic
- Zone 3** - MP Services (Ops): Includes those activities related to community services including registration, permits, licenses, and hunting and fishing control
- Zone 4** - MP Operations (Support Oriented): Includes those activities oriented toward the supervision of uniform motorized and foot patrol, law enforcement, criminal identification and military police investigations.
- Zone 5** - MP Operations (Duty Oriented): Includes those police activities oriented toward the arrest and processing of offenders, the development of crime information and intelligence reports, and case development and processing by military police investigators and physical security inspectors, and military police communications and intelligence systems.

Figure 6-8 Physical Relationship Diagram

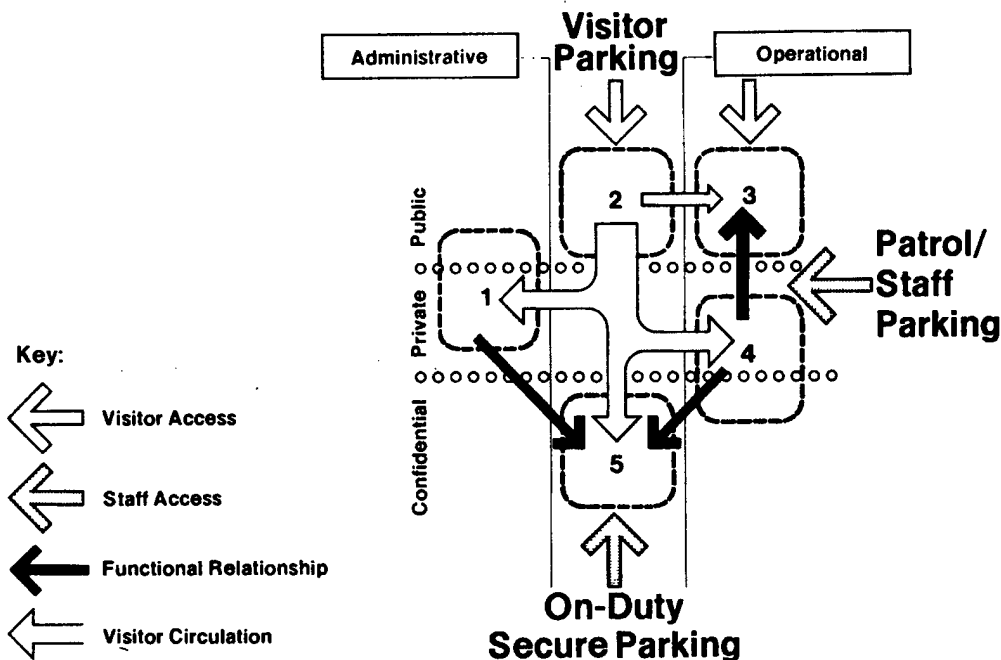


Table 6-4 Summary of Required Functional Activities

<b>Primary Facility</b>	17 Lockers/Showers for Male & Female
1 PM Office	18 Operations Storage
2 Community Relations	19 Public Entrance/Lobby
3 PM Admin. Support	20 Public Restrooms
4 Public Assistance	21 Staff Toilets
5 Community Activities	22 Staff Lounge
6 Registration	23 Staff Entrances
7 Traffic	24 Maintenance & Operational Supply Area
8 Operations Office	25 Mechanical Equipment
9 OPS Admin.	
10 Liaison	<b>Support Facility</b>
11 Community Services	26 Patrol/POV Parking
12 Absentee Control	27 Guardmount/Secure Parking/Impound Lot
13 Investigations	28 Operations Equipment Storage
14 Physical Security	29 Staff POV Parking
15 On-Duty Desk	30 Registration Services/Visitor Parking
16 Briefing/Training	31 Building Services Access (Loading Dock)

\*Female locker & shower space requirements will be ten percent of male locker & shower space requirement.

Figure 6-9 Functional Relationship Diagram

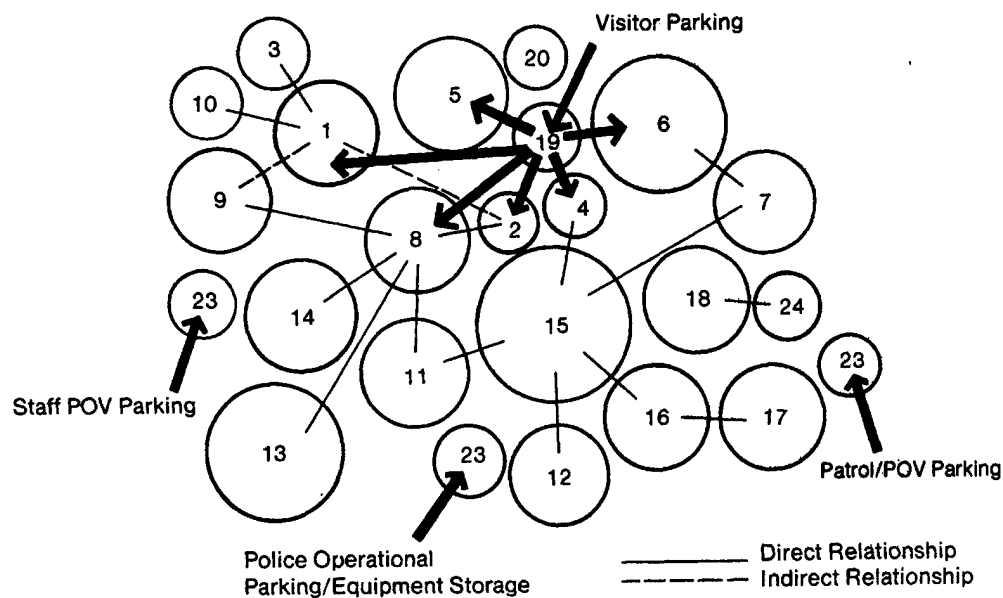


Figure 6-10 Area Planning Diagram

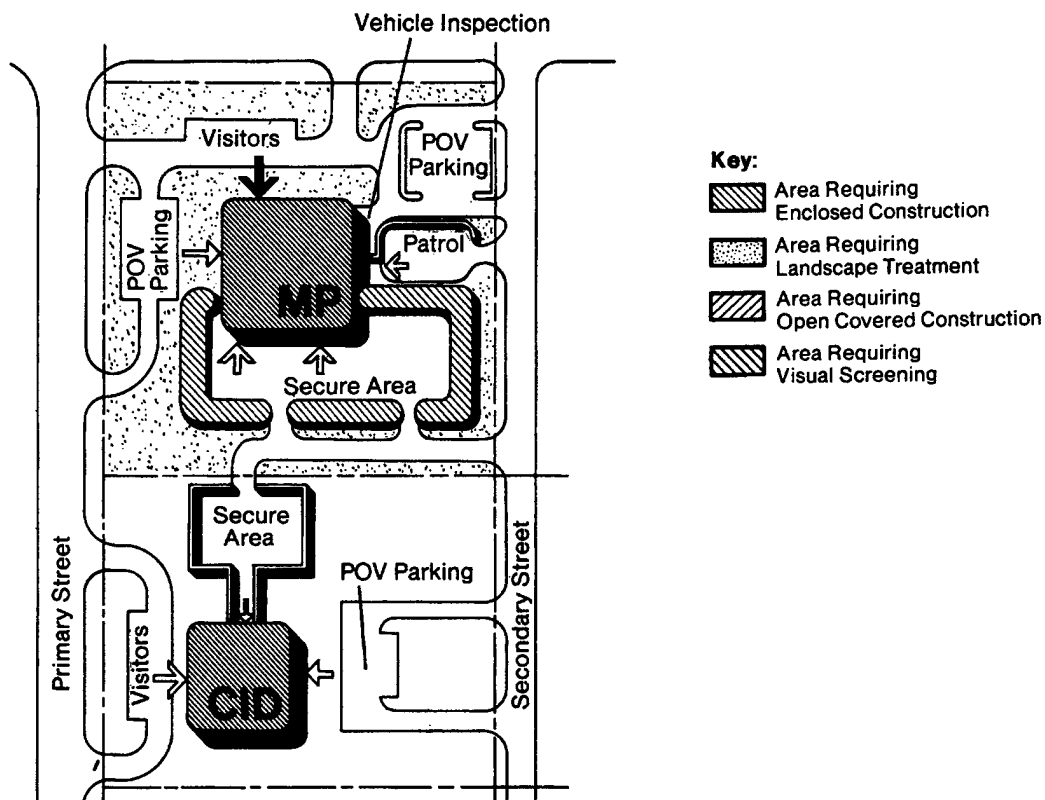


Figure 6-11 Building Elements Diagram

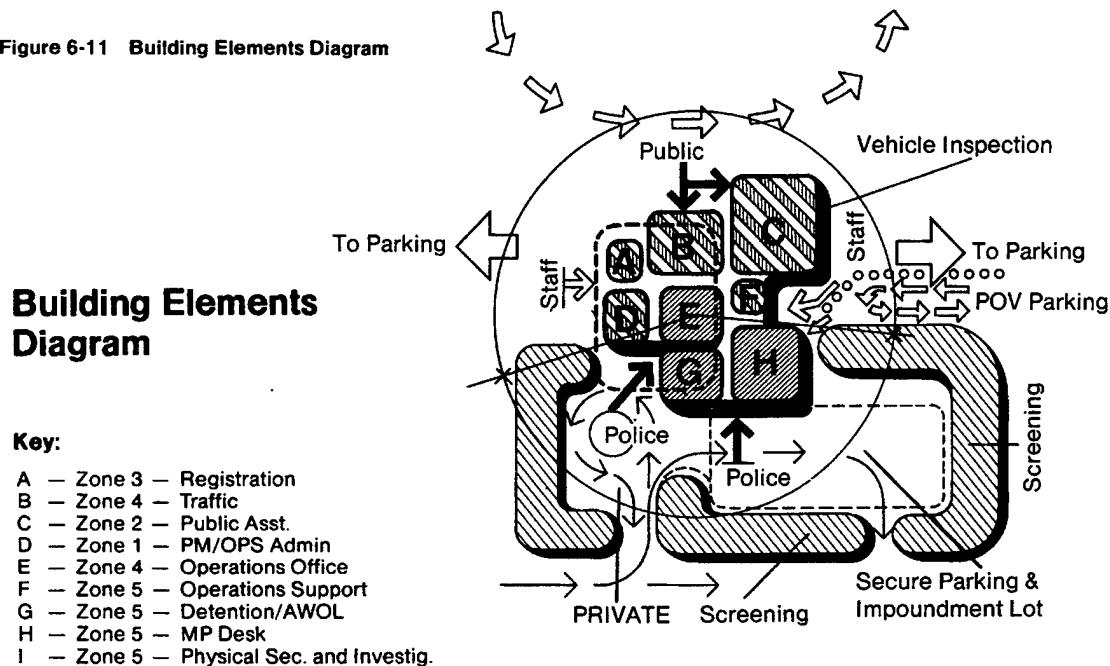
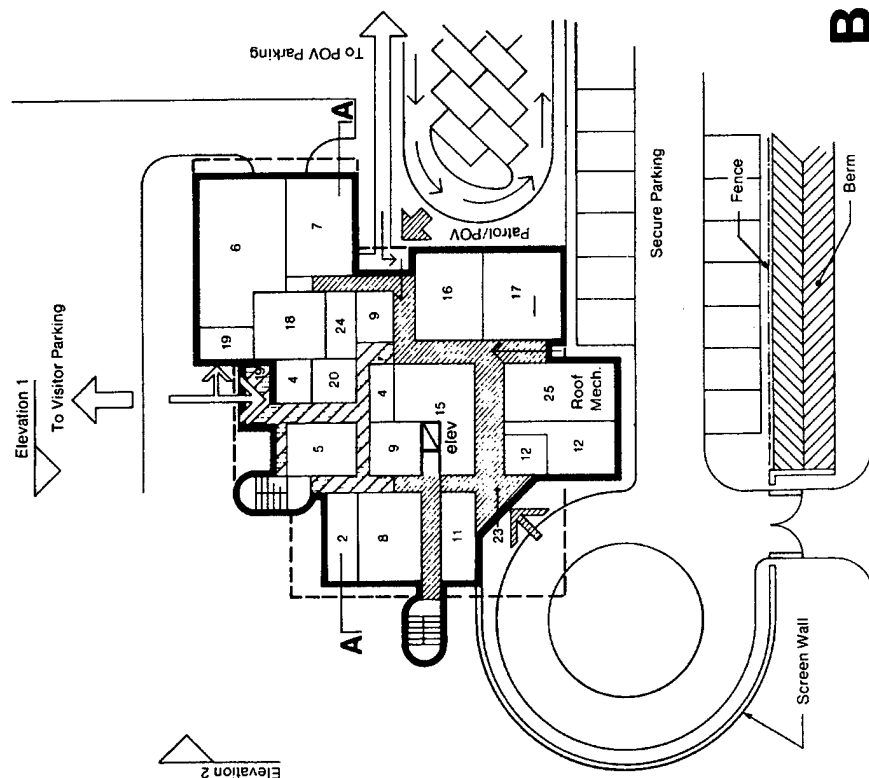


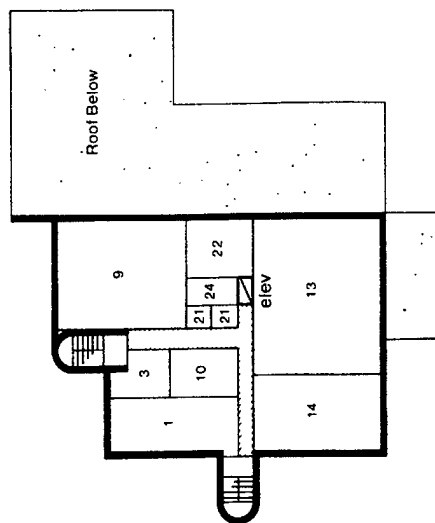
Table 6-6 Summary of Facilities Components  
Medium Size Facility

	Facility Components	Staff	Space
Zone 1	<b>Provost Marshal Activities</b>	10	1,980
	1—Provost Marshal Office		
	2—Community Relations		
	3—PM Administrative Support		
	Total	10	1,980
Zone 2	<b>Military Police Services</b> (Administration Related)		
	1—Public Assistance		700
	2—Community Activities		1,484
	Total	11	2,184
Zone 3	<b>Military Police Services</b> (Operational Related)		
	1—Registration Services Section	3	1,524
	2—Traffic Section	8	1,321
	Total	11	5,029
Zone 4	<b>Military Police Operations</b> (Operations Support Related)		
	1—Operations Office	4	913
	2—Operations Administration	19	3,567
	3—Operations Support Services		
	(a) Liaison Section	3	455
	(b) Community Service Section	3	858
	(c) Absentee Control	5	780
	Total	34	6,473
Zone 5	(Routine On-Duty Related)		
	4—Investigations	12	2,425
	5—Physical Security	6	1,002
	6—On-Duty Operations	5	2,360
	7—Operations Support Facilities	2	2,900
	(a) Briefing/Training/Lounge		
	(b) Lockers and Showers		
	(c) Operations Equipment Storage		
	Total	25	8,777
	<b>Net Functional Area</b>	80	22,359
	<b>Net Area Planning Factor</b>		2,236
	<b>Mechanical Equipment Area</b>		1,125
	<b>Primary Facility Requirements</b>	80	25,720
	<b>Functional Support Facilities</b>		
	Patrol/POV Parking		5,400
	Guardmount/Secure Parking/Impound Lot		13,200
	Operations Equipment Storage		400
	Staff POV Parking		12,600
	Registration Services/Visitor Parking		5,400
	Building Services Access (loading dock)		800
	<b>Open Space</b>		38,112
	<b>Access &amp; Circulation Space</b>		19,056
	<b>Support Facility Requirements</b>		94,968
	<b>Minimum Site Requirements</b>		120,688

**Figure 6-13 Building Floor Plan  
2nd Floor**



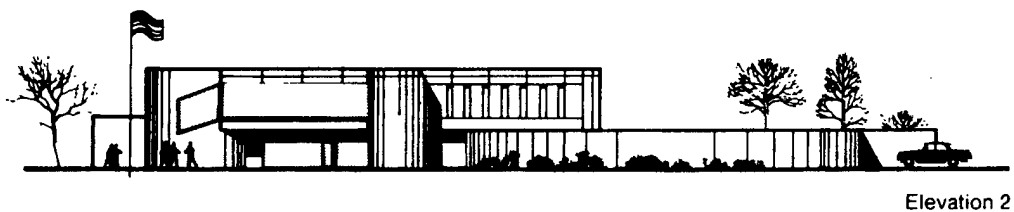
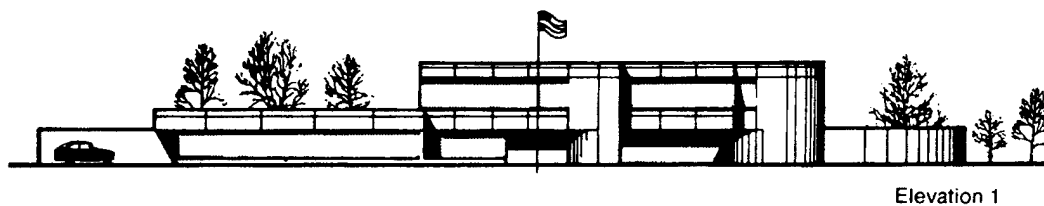
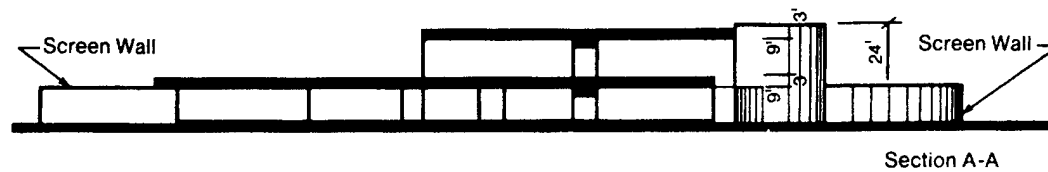
## 1st Floor Plan



**B**  
**2nd Floor Plan**

- | Key: |                      | Primary Facility                         | Support Facility                           |
|------|----------------------|--|--|
| 1    | PM Office            | 14 Physical Security                     | 26 Patrol/POV Parking                      |
| 2    | Community Relations  | 15 On-Duty                               | 27 Guardmount/Secure                       |
| 3    | PM Admin Support     | 16 Briefing/Traffic                      | Parking/Impound Lot                        |
| 4    | Public Assistance    | 17 Lockers/Shower for Male & Female      | 28 Operations Equipment Storage            |
| 5    | Community Activities | 18 Operations Storage                    | 29 Staff POV Parking                       |
| 6    | Registration         | 19 Public Entrance/Lobby                 | 30 Registration Services/Visitor Parking   |
| 7    | Traffic              | 20 Public Restrooms                      | 31 Building Services Access (Loading Dock) |
| 8    | Operations Office    | 21 Staff Toilets                         |  |
| 9    | OPS Admin            | 22 Staff Lounge                          |  |
| 10   | Liaison              | 23 Staff Entrances                       |  |
| 11   | Community Services   | 24 Maintenance & Operational Supply Area |  |
| 12   | Absentee Control     | 25 Mechanical Equipment                  |  |
| 13   | Investigations       |  |  |

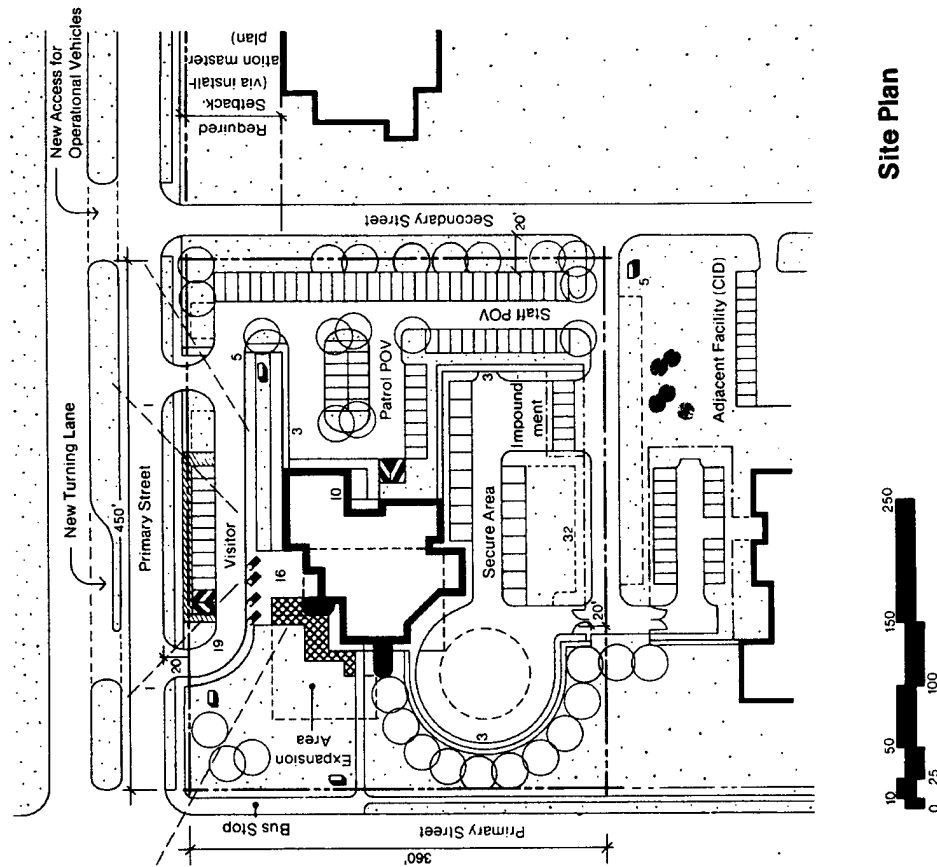
Figure 6-14 Elevations Section and Site



**B**

Design Guide: Military Police Facilities  
Example Designs for Army Military Police Facilities: Illustrative Example B

Figure 6-15 Site Development Considerations



- 1 Provide "visual approach corridors"
- 2 Provide angled paving at walk corners
- 3 8' high wall to screen critical areas
- 4 Provide 4' wide area between at walkways
- 5 Provide directional signs that separate traffic
- 6 Locate evergreen trees to protect building from the effects of prevailing winds
- 7 Locate shade trees on south side of building
- 8 Locate planting areas to break-up expanse of paving in large parking areas
- 9 Locate planting to screen views into military police operational areas
- 10 Locate shrubs or ground cover in areas too small to be maintained as lawn
- 11 Provide mowing strips along shrub beds, walls, and fences to reduce maintenance.
- 12 Provide pedestrian walkway lights
- 13 Provide general roadway and parking lights
- 14 Provide security floodlighting for MP areas located for unobstructed surveillance by pole mounted CCTV cameras
- 15 Provide additional landscaping to establish desired character
- 16 Provide drop-off zone adjacent to main entry
- 17 Provide bollards to control traffic, identify drop-off zones, and allow curb-free access by the handicapped
- 18 Provide adequate paved area within secure fence for occasional guard mount inspection
- 19 Locate primary activity identification sign for easy visibility by oncoming vehicular and pedestrian traffic
- 20 Provide designated or reserved stalls in public and staff parking areas for handicapped personnel.
- 21 Designated "official reserved parking" in public and staff parking areas
- 22 Provide service access area with a wide turning radius for rear unloading
- 23 Locate large shade trees on perimeter of parking areas as a buffer for paved areas
- 24 Locate shade trees along edges of "visual approach corridors" at main public access points
- 25 Provide shade trees on south and west sides of site to screen direct sunlight
- 26 Provide low shrubs where unobstructed view is required
- 27 Provide landscaping at police entrances to enhance access points and to soften visual impact in transitional spaces
- 28 Locate small shade trees in parking areas to screen reflected sunlight
- 29 Locate evergreen trees along site boundary or perimeter of buffer zone
- 30 Preserve existing or undisturbed natural landscape.
- 31 Provide earth berms as visual screens
- 32 Provide security fencing for operations

## Site Development Considerations

## 6-4 Illustrative Example C

**a. ORGANIZATIONAL DEVELOPMENT** This example illustrates the requirements for a hypothetical small size MP facility. The total number of people required to staff the TOE/TDA units authorized for a small scale military police organization is typically up to 39 temporary and permanent duty military and civilian personnel. To illustrate the planning and design requirements for this specific project, a new facility for this particular level and intensity of operation has been planned to accommodate approximately 50 administrative and operational personnel. This facility will serve as the principal support facility for satellited military police administrative and operational activities. As the primary installation activity supporting the law enforcement and crime prevention responsibilities of the installation commander and as the major subordinate troop activity, the MP facility will occupy a prominent position in the physical organization of the main post activities area.

**b. RELATED ACTIVITIES** While not directly related to any specific functional activity, a working relationship with existing community service facilities will be beneficial to the efficient functioning of MP operations. These activities are presently spaced along a perimeter of the main post area.

**c. LONG-RANGE DEVELOPMENT** As a comprehensive development of community activities takes place, and as law-enforcement technology and operational techniques change and develop, the present satellited functional activities, as well as other specialized support activities will require increases in the area requirement for activities. The long-range physical development program also includes expansion of requirements for operational support facilities for individual planning units.

**d. DESIGN GUIDELINES** Comprehensive physical development guidelines for Illustrative Example C include the following concepts:

**(1) Physical Development** The overall project development strategy for providing the functional requirements of this MP organization will require comprehensive planning and design for new facilities. Medium range and long range organizational development strategies support the need for a phased construction schedule. The primary long-term physical development objective is the eventual expansion of MP related administrative, operation activities corresponding to anticipated changes in the primary missions of supported activities.

**(2) Site Development** The physical and functional requirements of operational and administrative activities

limit the selection of facility locations. According to general design guidance an ideal situation would be the development of a square site with potential for shared use of the primary support facilities. Also a slope gradient allowing ground level access with direction of access visually separated by contour development and landscaping or by the natural utilization of a partially wooded site is ideal where full site development is consistent with efficiency and economy of land use and the intensity of development designated by the overall installation master plan. However, because of the scale of operations required in the first phase of development and because locations away from the main post areas area will not satisfy the essential requirements for major traffic and pedestrian access to MP facilities, site development must take place on a rectangular site where, due to the reduced area and width, maximum conservation of existing site elements will not be possible.

**(3) Facilities** Although the limited scope and simplicity of physical needs mandate efficiency and economy as primary in the design of both MP administrative and operational facilities, distinctive site and building elements should be developed to enhance the main post area. Provisions should be made in any case for maximum interior space flexibility. A method of incremental expansion should be provided that is appropriate to the functional requirements and design objectives of future activities. The total consolidation of post activities near the headquarters facility will eventually require joint occupancy by other law enforcement and investigation activities. Where possible, potential common-use of parking facilities should be identified in order to meet the long-term possibilities for joint occupancy or shared-use in an efficient and economical manner.

**(4) Individual Functional Requirements** (To be developed according to individual space criteria and the space organization guidance for the component activities). For specific guidance refer to Chapters 2 and 4.

**e. PHYSICAL DEVELOPMENT OBJECTIVES** In order to achieve a broad application of planning criteria for the full spectrum of required military police activities and to permit orderly expansion of component activity areas when required, a concept of space organization is proposed for the principal administrative and operational activities and the general functional support areas required by individual military police activities. The basic physical development objectives of specific activity areas are.

**(1)** The achievement of required planning and design standards and the development of a functionally integrated military police facility

**(2)** The maintenance of functional Integrity within major component areas



- (3) The ability to separate and control circulation within and between major activity zones
- (4) The definition of a clear order of movement from public to private to confidential activities
- (5) The ability to provide special environmental and climatic conditions for critical operational activities with a minimum of cost and effort and with maximum effectiveness
- (6) The flexibility to expand operations or change police techniques without a major interruption in law enforcement activities.

**f. PHYSICAL AND FUNCTIONAL CHARACTERISTICS OF MAJOR ACTIVITY ZONES** The diagram below illustrates the basic physical and functional characteristics of major activity zones and the functional flow and supervisory relationships of component activities contained within the general activity areas listed below:

**Zone 1-** Provost Marshal Office: Includes those activities related to the direction of administrative operations and law enforcement activities.

**Zone 2-** MP Services (Admin.), General Reception and Information: Includes activities related to the control and direction of visitor traffic

**Zone 3-** MP Services (Ops): Includes those activities related to community services including registration, permits, licenses, and hunting and fishing control

**Zone 4-** MP Operations (Support Oriented): Includes those activities oriented toward the supervision of uniform motorized and foot patrol, law enforcement, criminal identification and military police investigations

**Zone 5-** MP Operations (Duty Oriented): Includes those police activities oriented toward the arrest and processing of offenders, the development of crime information and intelligence reports, and case development and processing by military police communications and intelligence systems.

Figure 6-16 Physical Relationship Diagram

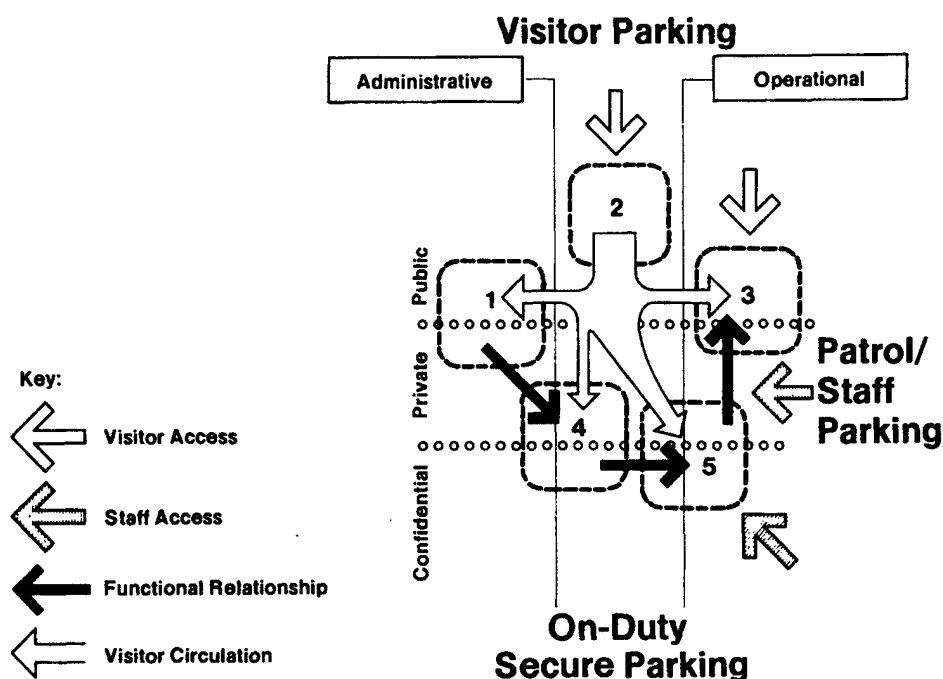


Table 6-8 Summary of Functional Activities

<b>Primary Facility</b>	17 Lockers/Showers for Male & Female*
1 PM Office	18 Operations Storage
2 Community Relations	19 Public Entrance/Lobby
3 PM Admin. Support	20 Public Restrooms
4 Public Assistance	21 Staff Toilets
5 Community Activities	22 Staff Lounge
6 Registration	23 Staff Entrances
7 Traffic	24 Maintenance 8 Operational Supply Area
8 Operations Office	25 Mechanical Equipment
9 OPS Admin.	
10 Liaison	<b>Support Facility</b>
11 Community Services	26 Patrol POV Parking
12 Absentee Control	27 Guardmount/Secure Parking/Impound Lot
13 Investigations	28 Operations Equipment Storage
14 Physical Security	29 Staff POV Parking
15 On-Duty Desk	30 Registration Services/Visitor Parking
16 Briefing/Training	31 Building Services Access (Loading Dock)

\*Female locker & shower space requirements will be ten percent of male locker & shower space requirement

Figure 6-17 Functional Relationship Diagram

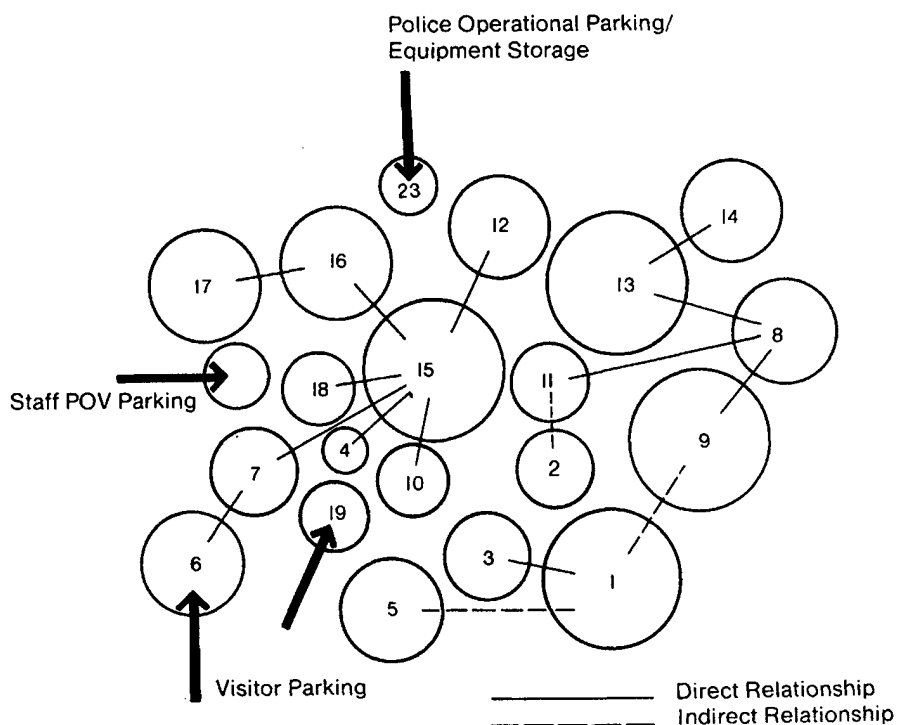


Figure 6-18 Area Planning Diagram

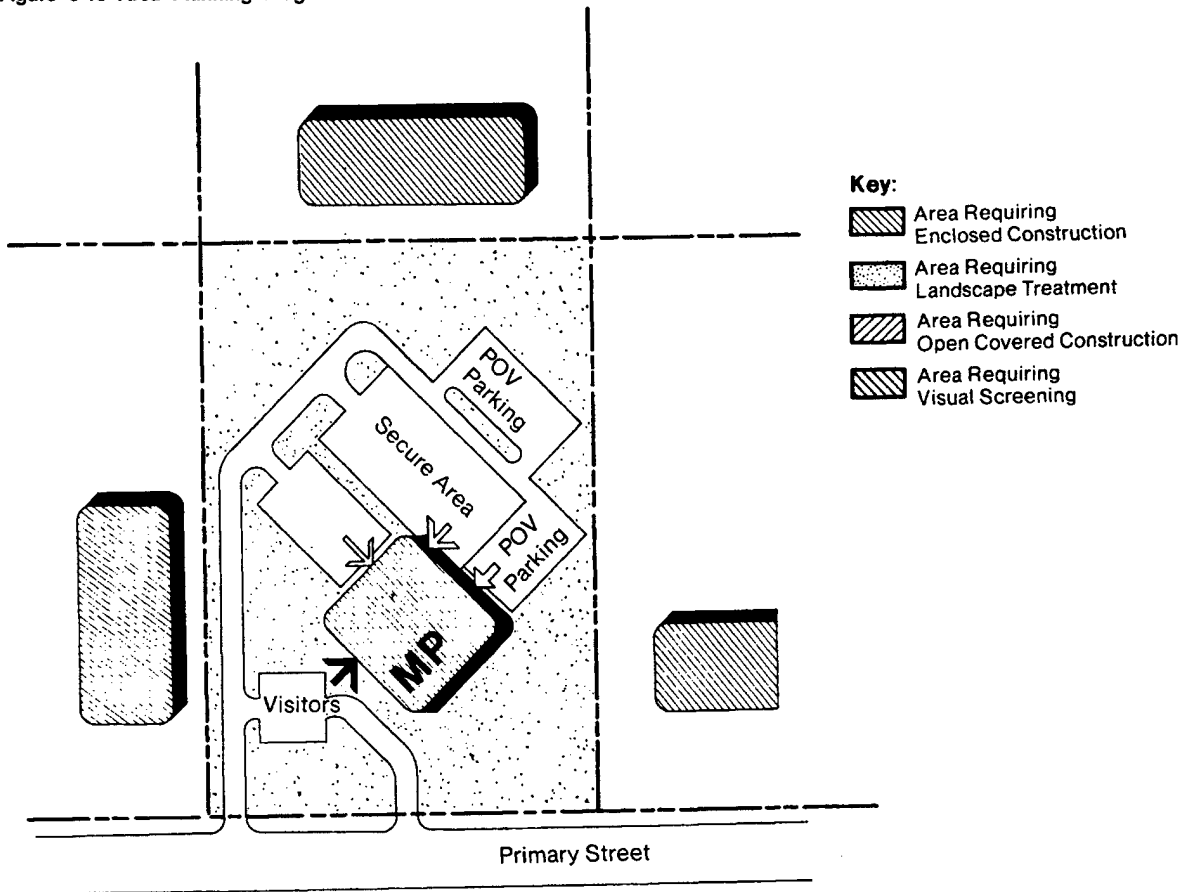


Figure 6-19 Building Elements Diagram

## Building Elements Diagram

**Key:**

- A — Zone 3 — Registration
- B — Zone 4 — Traffic
- C — Zone 2 — Public Asst.
- D — Zone 1 — PM/OPS Admin
- E — Zone 4 — Operations Office
- F — Zone 5 — Operations Support
- G — Zone 5 — Detention/AWOL
- H — Zone 5 — MP Desk
- I — Zone 5 — Physical Sec. and Investig.

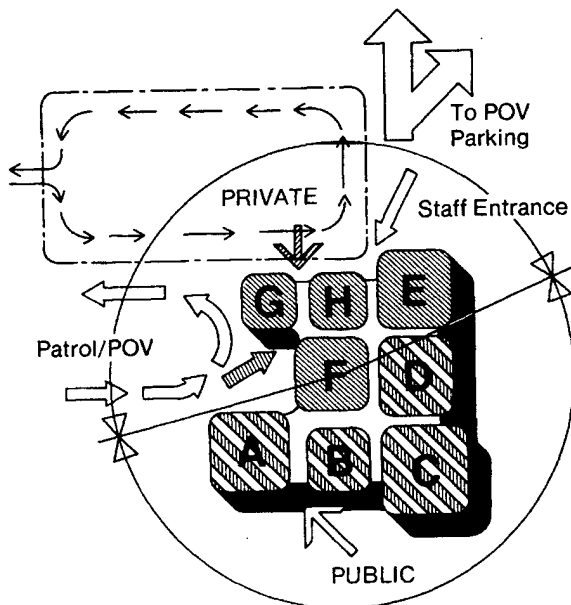
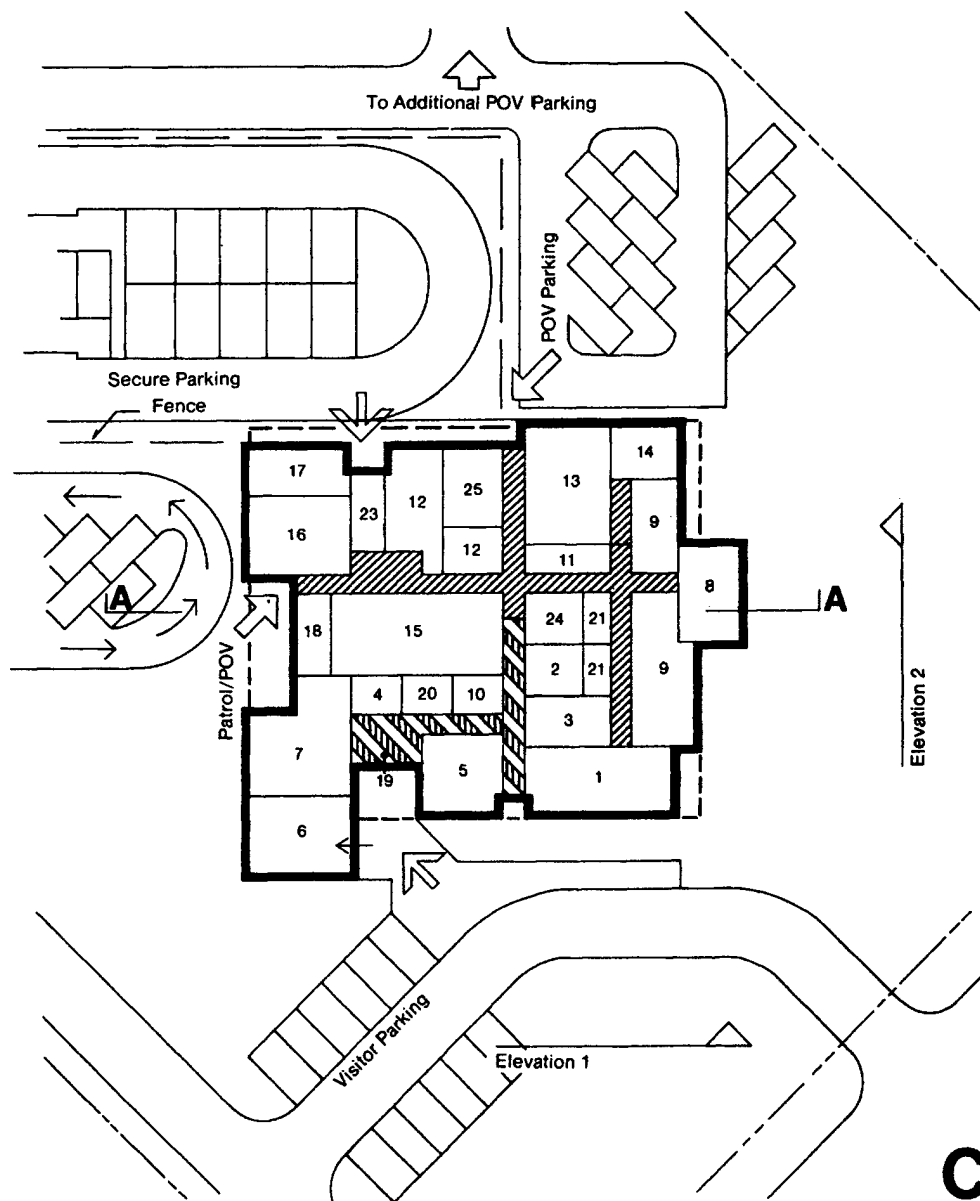


Table 6-9 Summary of Facilities Components  
Small Size Facility

	Facility Components	Staff	Space
Zone 1	<b>Provost Marshal Activities</b>	8	1,618
	1—Provost Marshal Office		
	2—Community Relations		
	3—PM Administrative Support		
	Total	8	1,618
Zone 2	<b>Military Police Services</b> (Administration Related)		
	1—Public Assistance		600
	2—Community Activities		1,230
	Total	(1)*	1,830
Zone 3	<b>Military Police Services</b> (Operational Related)		
	1—Registration Services Section	2	912
	2—Traffic Section	6	1,171
	Total	8	2,083
Zone 4	<b>Military Police Operations</b> (Operations Support Related)		
	1—Operations Office	3	912
	2—Operations Administration	13	2,784
	3—Operations Support Services		
	(a) Liaison Section	1	275
	(b) Community Service Section	2	582
	(c) Absentee Control/Detention	3	448
	Total	22	4,807
Zone 5	<b>(Routine On-Duty Related)</b>		
	4—Investigations	6	1,650
	5—Physical Security	2	416
	6—On-Duty Operations	3	1,890
	7—Operations Support Facilities	1	1,760
	(a) Briefing/Training/Lounge		
	(b) Lockers and Showers		
	(c) Operations Equipment Storage		
	Total	12	5,716
	<b>Net Functional Area</b>	50	16,054
	<b>Net Area Planning Factor</b>		1,605
	<b>Mechanical Equipment Area</b>		801
	<b>Primary Facility Requirements</b>	50	18,460
	<b>Functional Support Facilities</b>		
	Patrol/POV Parking		36,000
	Guardmount/Secure Parking/Impound Lot		7,200
	Operations Equipment Storage		300
	Staff POV Parking		9,600
	Registration Services/Visitor Parking		3,600
	Building Services Access (loading dock)		500
	<b>Open Space</b>		25,956
	<b>Access &amp; Circulation Space</b>		12,978
	<b>Support Facility Requirements</b>		63,739
	<b>Minimum Site Area Requirements</b>		82,194
	<b>Minimum Area Requirements</b>		82,194

Figure 6-20 Building Floor Plan



**Key:**

**Primary Facility**

- 1 PM Office
- 2 Community Relations
- 3 PM Admin Support
- 4 Public Assistance
- 5 Community Activities
- 6 Registration
- 7 Traffic
- 8 Operations Office
- 9 OPS Admin
- 10 Liaison
- 11 Community Services
- 12 Absentee Control
- 13 Investigations

- 14 Physical Security
- 15 On-Duty
- 16 Briefing/Traffic
- 17 Lockers/Shower for Male & Female
- 18 Operations Storage
- 19 Public Entrance/Lobby
- 20 Public Restrooms
- 21 Staff Toilets
- 22 Staff Lounge
- 23 Staff Entrances
- 24 Maintenance & Operational Supply Area
- 25 Mechanical Equipment

**Support Facility**

- 26 Patrol/POV Parking
- 27 Guardmount/Secure Parking/Impound Lot
- 28 Operations Equipment Storage
- 29 Staff POV Parking
- 30 Registration Services/Visitor Parking
- 31 Building Services Access (Loading Dock)

Figure 6-21 Elevation and Section

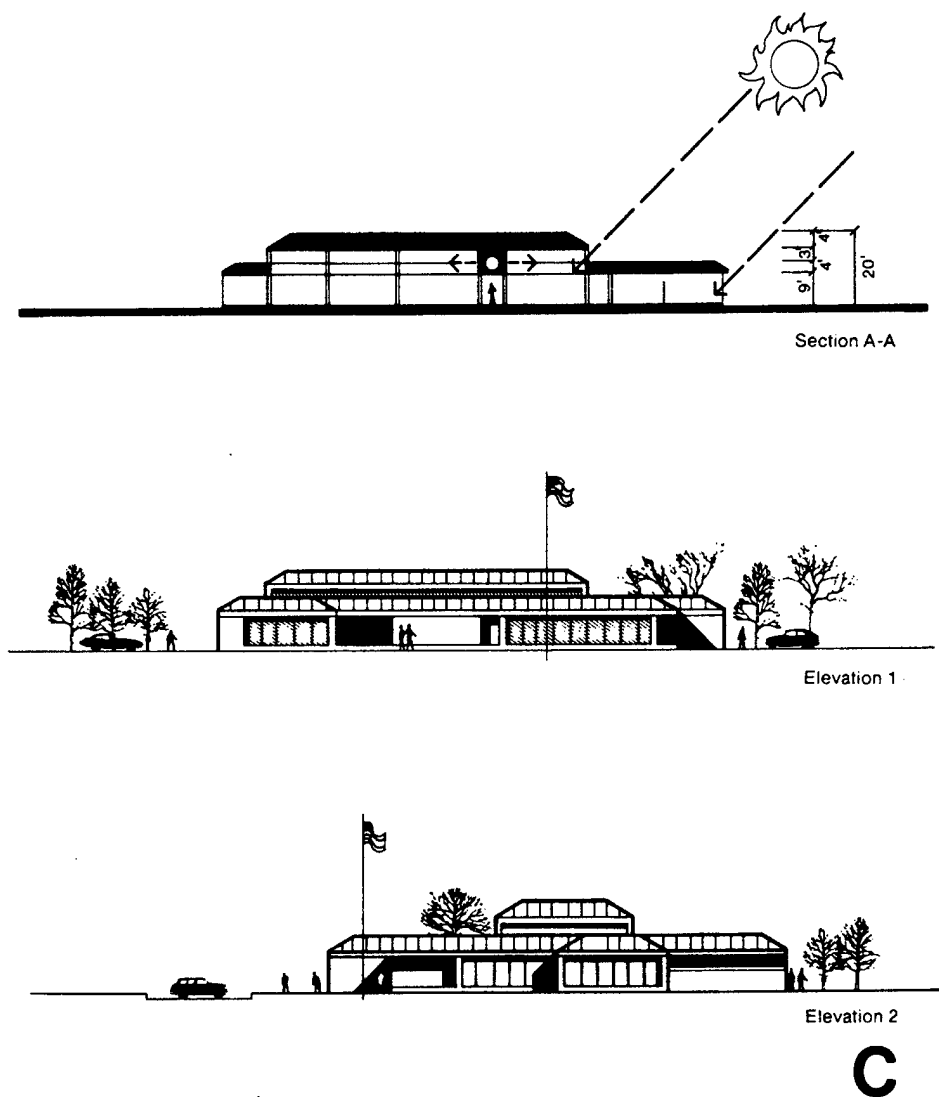
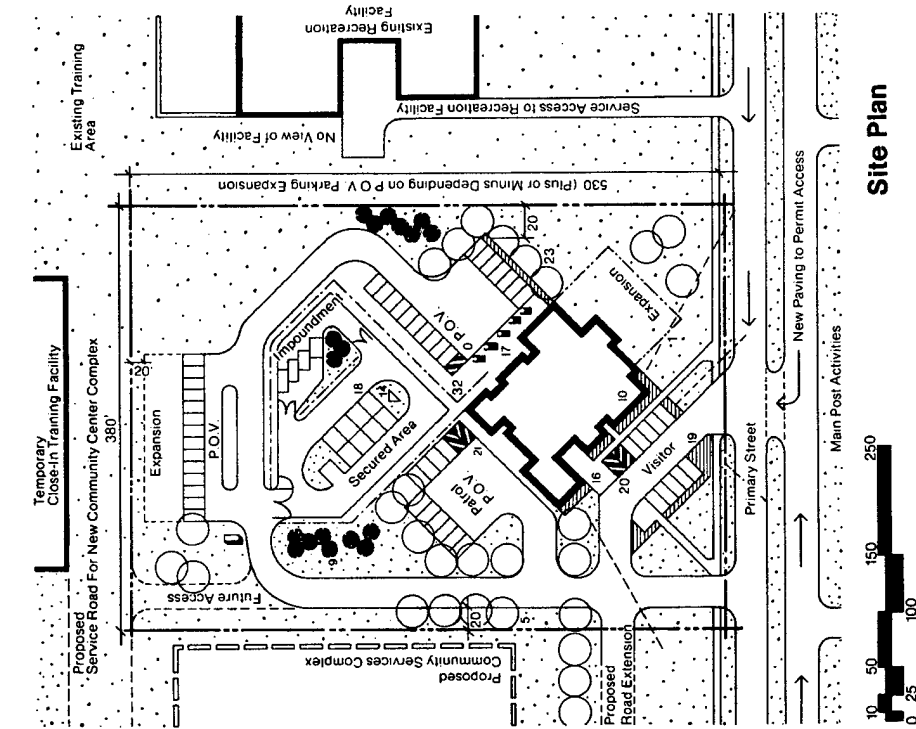


Figure 6-22 Site Development Considerations



- 1 Provide "visual approach corridors"
- 2 Provide angled paving at walk corners.
- 3 8' high wall to screen critical areas.
- 4 Provide 4' wide area between at walkways.
- 5 Provide directional signs that separate traffic
- 6 Locate evergreen trees to protect building from the effects of prevailing winds.
- 7 Locate shade trees on south side of building.
- 8 Locate planting areas to break-up expanse of paving in large parking areas
- 9 Locate planting to screen views into military police operational areas.
- 10 Locate shrubs or ground cover in areas too small to be maintained as lawn
- 11 Provide mowing strips along shrub beds, walls, and fences to reduce maintenance.
- 12 Provide pedestrian walkway lights.
- 13 Provide general roadway and parking lights.
- 14 Provide security floodlighting for MP areas located for unobstructed surveillance by pole mounted CCTV cameras.
- 15 Provide additional landscaping to establish desired character.
- 16 Provide drop-off zone adjacent to main entry
- 17 Provide bollards to control traffic, identify drop-off zones, and allow curb-free access by the handicapped.
- 18 Provide adequate paved area within secure fence for occasional guard mount inspection
- 19 Locate primary activity identification sign for easy visibility by oncoming vehicular and pedestrian traffic.
- 20 Provide designated or reserved stalls in public and staff parking areas for handicapped personnel
- 21 Designated "official reserved parking" in public and staff parking areas
- 22 Provide service access area with a wide turning radius for rear unloading
- 23 Locate large shade trees on perimeter of parking areas as a buffer for paved areas
- 24 Locate shade trees along edges of "visual approach corridors" at main public access points
- 25 Provide shade trees on south and west sides of site to screen direct sunlight
- 26 Provide low shrubs where unobstructed view is required.
- 27 Provide landscaping at police entrances to enhance access points and to soften visual impact in transitional spaces.
- 28 Locate small shade trees in parking areas to screen reflected sunlight
- 29 Locate evergreen trees along site boundary or perimeter of buffer zone
- 30 Preserve existing or undisturbed natural landscape.
- 31 Provide earth berms as visual screens
- 32 Provide security fencing for operations

## Site Development Considerations